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Position Paper

National Focus Group

on

Work and Education

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
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Executive Summary

This Position Paper primarily aims at exploring and institutionalising the pedagogic role of work in education in the context of building a truly *national* system of education. In the process, it has examined as to how the rich knowledge base, social insights and skills of the marginalised children (who constitute more than half of the child population) in relation to their habitat, natural resources and livelihoods can be turned into a source of their dignity and strength in the school system. The paper also addresses the profound problem of growing alienation of the middle-upper class children from their cultural roots and the central role played by the education system in aggravating and accelerating this process. The paper contends that the exclusionary character of Indian education can at least be partly challenged by utilising the knowledge base of the vast productive sections of society as a powerful means to transform the education system. At the same time, this knowledge base is to be subjected to criticlal scrutiny in order to ensure that its retrogressive and unscientific streaks are identified and rooted out before they find their way into the school curriculum.

The exclusionary character of the education system in India is to a great extent founded on the artificially instituted dichotomy between work and knowledge (also reflected in the widening gap between school and society). Those who work with their hands and produce wealth are denied access to formal education while those who have access to formal education not only denigrate productive manual work but also lack the necessary skills for the same. The socio-economic, religio-cultural, gender and disability-related dimensions of this dichotomy have serious implications for education in India. Over a period of time and through systematic practice, such a notion of education has come to be embedded in the knowledge system, representing the dominant classes/castes/cultures/languages with patriarchy in each of these categories playing a decisive role. The education system has tended to 'certify' this form of knowledge as being the only 'valid' form. In the process, the knowledge inherent among the vast productive forces along with the related values and skills has been excluded from the school curriculum. The legacy of colonial education was built upon precisely such a Brahminical concept of 'certified' or 'valid' knowledge that is alienated from productive work and its social ethos.

The Gandhian proposal of *Nai Talim* (Basic Education) was a radical departure from this Brahminical-cum-colonial paradigm insofar it challenged the dichotomy by placing productive manual work at the centre of school curriculum itself. As per this view, participation in productive work under conditions approximating to real-life situations is pedagogically linked to learning and simultaneously becomes the medium of *knowledge acquisition, developing values and skill formation.* Engagement with work will promote multi-dimensional attributes in the cognitive, affective and psycho-motor domains in a holistic manner i.e. by integrating 'head, hand and heart'. Such attributes are admittedly missing in the education system. In this sense, placing productive work at the centre of curriculum will act as a powerful corrective to the 'bookish', information-oriented and generally

unchallenging character of school education and, in turn, help relate the latter to life needs of the child. Pedagogical experience in using work is thus viewed as an effective and critical developmental tool at different stages of childhood and adolescence.

The paper presents a detailed critique of education policy and practice in order to reveal how the pedagogic role of productive work was time and again either marginalised or trivialised in the school curriculum. The critique applies to both 'work experience' and SUPW as recommended by the Education Commission (1964-66) and Ishwarbhai Patel Committee (1977) respectively. This explains the wide-spread continuing practice of confusing vocational education with the pedagogic role of work in curriculum. The 1986 policy itself is responsible for promoting such a confusion as well as for proposing an artificial division between vocational and the so-called academic streams. The policy makers instituted vocational education as a parallel stream at the Plus Two stage, primarily as a strategy for diverting a substantial proportion of students away from the 'academic' stream. This is precisely why the vocational education programme was perceived as being inferior and has been a non-starter for the past 25 years. Also, no inter-relationship was conceived even at the theoretical level between work-centred education (which did not exist any way), on the one hand, and vocational education, on the other.

Based upon this analysis, the paper makes the following two-pronged recommendations:

1. Reconstruct the entire school curriculum from the pre-primary to senior secondary stage with a view to making productive work (and other forms of work as well, including social engagement) a pedagogic medium for *knowledge acquisition, developing values and multiple-skill formation*. As the child matures with age, work-centred pedagogy will be pursued with increasing complexity but invariably enriched with the required flexibility and contextuality. A *common core curriculum* incorporating work-based pedagogy initially until Class X and, within the foreseeable future, upto Class XII for all children, will be the objective. A set of work-related generic competencies (Basic, Inter-personal and Systemic) will be pursued at all stages of education and also inform the redesigning of evaluation parameters as well as the assessment system, including the public examinations. Generic competencies will include, among others, critical thinking, transfer of learning, creativity, communication skills, aesthetics, work motivation, work ethic of collaborative functioning and entrepreneurship-cum-social accountability. The paper also presents a detailed typology of work that will facilitate curricular planning. All of this will provide a firm foundation for building up a relatively more evolved and intense programme of work-centered education called '*Vocationalised* Education' (to be distinguished from '*Vocational* Education') at the secondary/senior secondary stages. Several narratives of school-based experiences, including those relating learning with social engagement, are included to illustrate the work-centred pedagogy.
2. In a radical departure from the 1986 policy, Vocational Education and Training (VET) may be conceived as a *major national programme in the mission mode* and be structurally and administratively placed *outside* the school system. VET in this new perspective will be built

upon the *bedrock of 10-12 years of work-centred education in the school system*, unlike the prevailing notion of vocational education 'hanging' in vacuum. VET will be designed for all those children who wish to either acquire additional skills and/or seek livelihoods through vocations as a *preferred dignified option*, rather than as a strategy for diverting students away from the 'academic' stream. The noteworthy features of the proposed VET will include (a) flexible and modular certificate/diploma courses of varying durations; (b) multiple entry and exit points with in-built credit accumulation facility; (c) vertical and lateral linkages with the academic, vocational and technical programmes; (d) accessibility all the way from the level of village clusters to the Block and District levels, and also in urban areas; (e) provision for carving out 'work benches' (or appropriately 'work places'/ 'work spots') in the neighbourhood out of the existing economic activities, production and technical centres; (f) scope for engaging local farmers, artisans, mechanics, technicians, musicians, artists and other service providers as resource persons or invited faculty; and (g) a decentralised accreditation and equivalence programme which will also recognise 'work benches'/'work places'/'work spots' for the purpose of evaluating and certifying students.

The paper lists certain enabling conditions for successful institutionalisation of work-centred education in the national system of education. These are:

- A Common School System with certain *non-negotiable minimum* infrastructural, curricular and pedagogic norms that will include all schools, irrespective of the type of their management, sources of income or the affiliating Boards of Examinations; work-centred education would be **a non-starter as long as it is not implemented in all the schools within a declared timeframe**;
- All schools initially upto elementary stage to act as genuine Neighbourhood Schools in both rural and urban areas; to be extended upto Plus Two stage in a phased manner;
- The National Curriculum Framework and core curriculum as approved in the national policy to be applicable to all schools including the private unaided schools; within these broad parameters, each school or a school cluster to have full flexibility for negotiating its own curriculum and adopting contextual texts and teaching-learning processes;
- A system of process-based assessment (both formative and summative) based upon such evaluation parameters as will test the attributes that are expected to develop amongst children from work-centred education; public examination system as well as competitive entrance tests to be restructured in order to incorporate these principles of assessment;
- The entire education system to be developed on the principles of inclusive education;
- Modification of prevailing policy of viewing '*Vocational* Education' as a distinct stream at Plus Two stage with a view to integrating '*Vocationalised* Education' in the core curriculum, thereby ending the present dichotomy between academic and vocational streams; and
- Legislation to ensure education of equitable quality for all children.

The paper finally suggests a detailed five-year roadmap of phase-wise planned transition

which in turn is based upon the lessons drawn from the historical overview and critique of policy and practice undertaken at the beginning. These lessons are enumerated below:

First, the time for experiments is long over as a wealth of knowledge and experience in relating work with education is already available, both within and outside the country.

Second, directionless, dithering and ambiguous steps for endlessly 'incremental' implementation in bits and pieces and, that too, without appropriate policy changes, timeframe or adequate resource allocation at the national level, will just not work. What is instead called for, to begin with, is an unambiguous declaration of *all* the necessary policy changes with a clear timeframe for phase-wise and nation-wide implementation of both work-centred education *in the entire school system* (including the private unaided schools) and Vocational Education and Training Programme (VET) *outside* the school system.

Third, it is a widespread misconception that curricular reforms can be de-linked from structural changes in the school system.

Fourth, it is wrong to assume that implementation of curricular reform in a category of schools (for example, government/local body schools) can be sustainable, while keeping the rest of the schools unreformed. The process of curricular reform has to cover the entire school system, including the private unaided schools, in order to become sustainable. It is nobody's case, however, that the full coverage can happen overnight by a *diktat* from above but there has to be a credible policy-level declaration of a *phase-wise plan to make the full switchover within a specified timeframe* so that the general public has the confidence that their children are not being treated as guinea pigs.

Let us recall that no developed or developing country has ever achieved Universalisation of Elementary Education (UEE) without a powerful state-funded Common School System functioning through Neighbourhood Schools. India is not going to be an exception either to this historical experience. **And without an effective and universal programme of work-centred education, it is unlikely that UEE (and later Universal Secondary Education too) would succeed!**

The proposed radical departure from the present educational system would not be obviously possible without building up a nation-wide social movement in its support. In this sense, the present paper is to be viewed as an advocacy document for various sections of society, including the policy makers and political parties.

We are convinced that India has the necessary administrative acumen, pedagogic experience and the economic capacity today to translate this radical vision on the ground, provided the government is willing to accord it the required political priority that it deserves.

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CONTENTS

> "Our education has got to be revolutionised. The brain must be educated through the hand. If I were a poet, I could write poetry on the possibilities of the five fingers. Why should you think that the mind is everything and the hands and feet nothing? Those who do not train their hands, who go through the ordinary rut of education, lack 'music' in their life. All their faculties are not trained. Mere book knowledge does not interest the child so as to hold his attention fully. The brain gets weary of mere words, and the child's mind begins to wander. The hand does the things it ought not to do, the eye sees the things it ought not to see, the ear hears the things it ought not to hear, and they do not do, see or hear, respectively what they ought to. They are not taught to make the right choice and so their education often proves their ruin. An education which does not teach us to discriminate between good and bad, to assimilate the one and eschew the other is a misnomer."
>
> — Mahatma Gandhi
> *Discussion with Teacher Trainees,*
> *Harijan, 18 February 1939*[1]

1. Introduction

Work, as distinguished from wage and other forms of exploitative labour (especially in the context of children), is integral to all cultures and life situations within India as well as across the globe. It is now being increasingly acknowledged that the Indian economy has already entered the stage of advanced capitalism.[2] Yet, the contemporary Indian society has managed to accommodate pre-industrial patterns of work and social relations in varying degrees in different regions. Such anomalies, too, eventually would come under the powerful impact of globalised production and market relations, irrespective of whether the impact is positive or negative.

Let us also recall that almost 93 per cent of the workforce in the country is engaged in the un-organised sector. A majority of the children, therefore, enter schools with the cognitive and social capital derived from this background. However, the school curriculum not only ignores this rich experiential base but also denigrates it as being inferior. This phenomenon is both a *consequence* as well as an *instrument* of oppression and denial to which these sections of society have been subjected for centuries. As would be expected, the dominant epistemic framework of the school system represents the privileged position of the urban middle classes and the elite, increasingly moulded by the ideology of globalisation. Even here, the vested interests of the upper caste male tend to dominate.

This Position Paper primarily aims at exploring and institutionalising the pedagogic role of work in education for all children, irrespective of their economic, social or cultural backgrounds, in the context of building a truly *national* system of education. In the process, we will examine as to how the rich knowledge base, social insights and skills of the marginalised children (who constitute more than half of the child population) in relation to their habitat, natural resources and livelihoods can be turned into a source of their dignity and strength in the school system. We will also address the profound problem of growing alienation

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[1] *The Collected Works of Mahatma Gandhi, Vol. 68, pp. 372-73.*

[2] *This is evident from the impact that the Indian economy is able to make on international relations and negotiations, including in the WTO. Conscious of this transformation, the Indian ruling class is already projecting itself as becoming the 'third largest economy of the world' and acquiring the status of a 'Superpower by 2020'! Of course, these projections reflect little concern with regard to the future of the vast sections of society that are marginalised today. Such a reading of the present scenario will enable us to move towards a more realistic and futuristic planning of the curriculum and the school system.*

of the middle-upper class children from society, its culture and their own roots. The prevailing education system plays a central role in aggravating and accelerating this process of alienation, thereby making these children lose their organic links with the rich diversity of India's knowledge, culture and history. The result: the rapidly emerging phenomenon of the identity-less, amorphous and homogenised adolescents and youth – '*gobbelised*' but certainly not '*globalised*' in their outlook. Thus, the purpose of undertaking such an exercise would be partly to address the issue of the exclusionary character of Indian education. Partly, the purpose would also be to utilise the knowledge base of the vast productive sections of Indian society as a powerful means to transform the education system in order to be able to meet the emerging global challenges.

The available data reveal that 'economic growth without employment' has become a persistent phenomenon of the neo-liberal economics in many parts of the world (including the developed economies). The impact of globalisation on the patterns of production, socio-cultural (including caste-based in India) and gender discrimination inherent in technology change and the diminishing common property and other natural resources is adding to the desperation of the deprived sections of population. The children are among the worst victims. This, however, has not yet prevented the majority of the people from engaging in productive work and pursuit of diverse livelihoods.

Almost ignoring these socio-economic and cultural realities, the present education system in India is founded on the artificially instituted dichotomy between work and knowledge (also reflected in the widening gap between school and society). This dichotomy is rooted in the Brahminical[3] notion that those who work with their hands and produce wealth are denied access to formal education while those who have access to formal education not only denigrate productive manual work but also lack the necessary skills for the same and often have a parasitic relationship with the society. This character of Indian education system was brought out by Mahatma Phule in his classic memorandum to the Indian Education Commission (1882). The socio-cultural, ethnic and gender dimensions of this dichotomy have serious implications for education in India.[4] Over a period of time and through systematic practice, such a notion of education has come to be rooted in the knowledge system, representing the dominant classes/castes/cultures/languages (and also the so-called 'normal body') with gender playing a hegemonic role in each of these categories. The education system has tended to 'certify' this form of knowledge as being the only 'valid' form. In the process, the knowledge inherent among the vast productive forces in the country along with its related values and skills has been excluded from the school curriculum. The legacy of colonial education was built upon precisely such a concept of 'certified' or 'valid' knowledge that

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[3]The term 'Brahminical' is used in this paper strictly to refer to an ideology of socio-cultural hegemony in India which has been systematically challenged by various social reform movements of 19th and 20th centuries. The national freedom movement incorporated the notions of modernity that would further attrition the stranglehold of this ideology. This struggle greatly influenced the manner in which the principles of equality and social justice were enshrined in the Constitution. The term 'Brahminical', therefore, should in no way be seen as a reference to individual members of either the Brahman or other upper caste communities. On the contrary, one expects such upper caste/class citizens of modern India to join the traditionally exploited castes and other sections of societies in their continuing struggle against the ideology of Brahminism and for fulfillment of the goals of Indian Constitution.

[4]The respective Position Papers of the National Focus Groups on 'Problems of SC and ST Children' and 'Gender Issues in the Curriculum' discuss this matter in detail and should form an essential backgrounder for this paper.

is alienated from productive work and its social ethos. Perhaps, this dichotomy lies at the root of the present exclusionary character of Indian education system which deprives more than half of the children of elementary education (Class I-VIII) and prevents two-thirds of them from completing high school, the situation of SC and ST children (with the girl child in particular) being much more alarming.

The Gandhian proposal of *Nai Talim* (Basic Education) was a radical departure from this Brahminical-cum-colonial paradigm insofar it challenged the dichotomy by placing productive manual work at the centre of school curriculum itself.[5] To be sure, Gandhi was neither the only one nor the first one to conceive of this idea. Similar notions of work-centred curriculum have been practiced in varying manners in various countries of the west, including the erstwhile USSR and other socialist countries. In the Gandhian view, participation in productive work under conditions approximating to real–life situations is pedagogically linked to learning and simultaneously becomes the medium of *knowledge acquisition, developing values and skill formation*. In addition, engagement with work will help promote multi-dimensional attributes in the cognitive, affective and psycho-motor domains in a holistic manner i.e. by integrating 'head, hand and heart'. Such attributes are admittedly missing in the prevailing education system. This is evident from several studies that reveal multiple forms of incompetence (including in the subject knowledge) among a majority of children who manage to complete schooling. In this sense, placing productive work at the centre of curriculum will act as a powerful corrective to the 'bookish', information-oriented and generally unchallenging character of school education and, in turn, help relate the latter to life needs of the child. Pedagogical experience in using work is thus viewed as an effective and critical developmental tool at different stages of childhood and adolescence and, therefore, of moving towards a secular, egalitarian and democratic society.

2. Historical Overview[6]

In 1906, the Indian National Congress, then spearheading the Indian freedom struggle against the British empire, resolved that the time had arrived "for the people all over the country to take up the question of national education for boys and girls, and organise a system of education, literary, scientific and technical, suited to the requirements of the country, on national lines, and under national control, and directed towards the realisation of the national destiny." This movement for a national system of education attempted a conceptual clarification of the objectives, content, organisation and other related aspects of education and, at the same time, promoted some experiments outside the official system based on the then emerging vision of national education.

A major concern of this 'conceptual clarification' was with regard to the tendency of the colonial system of education to reinforce fragmentation of the society. The nationalist movement was committed to creating a system of education that will not promote dichotomy between work and education and thus challenge the

[5] *We are fully aware of the debate regarding the misconceived 'casteist' interpretations of the Gandhian proposal of introducing productive work related to the artisans and other lower caste communities in the school. At the same time, we note the radical implications of this agenda which was at the root of the Gandhian programme of social transformation through Nai Talim which is precisely why it met with such fierce resistance from the upper caste/class and other elite sections of society (Richards, 2001; Fagg, 2002; Krishna Kumar, 2005; Achar, 2005). However, this paper will focus on the pedagogic dimension and educative purpose of the Gandhian proposal and not go further in this debate.*

[6] *This Section draws upon the Discussion Paper presented by Prof. Anil Sadgopal, Chairperson of this National Focus Group, at the first meeting held at NCERT, New Delhi, on 27-30 December, 2004 (Annexure I).*

paradigm on which colonial education was founded. The National Education Conference held at Wardha (now in Maharashtra) in October 1937 under the leadership of Mahatma Gandhi represented a sort of culmination of this nation-wide debate on 'conceptual clarification' of the alternative educational paradigm that ought to shape the national system of education for independent India. Apart from the educationists and workers then engaged in this endeavour, the Conference was also attended by the Ministers of Education of seven elected provincial governments headed by the Congress party. The Conference deliberated upon Gandhiji's proposal of Basic Education (*Buniyadi Shiksha*) which would make productive work a pedagogic basis of learning in schools. Learning in a cooperative mode by viewing schools as communities engaged in production and making schools self-reliant through the income of productive work were amongst the other key features of the original proposal that was viewed as a means of social transformation. We are, however, concerned here mainly with the pedagogic vision of this holistic philosophy of education that came to be later known as the *Nai Talim* (Gandhi, 1953; Hindustani Talimi Sangh, 1946, 1957; Sykes, 1988, 1998; Patel, 1995; Fagg, 2002). While addressing the Wardha Conference, Mahatma Gandhi stated:

> "What I am going to place before you today is *not about a vocation* that is going to be imparted alongside education. Now, I wish to say that whatever is taught to children, *all of it should be taught necessarily through the medium of a trade or a handicraft*. You may argue that, during the middle age, children were taught only trades (crafts) in our country. While I agree with this contention, but the proposition of imparting the whole of education through the medium of trades (crafts) was not considered in those days. A trade (craft) was taught only from the standpoint of a trade (craft). We aim at *developing the intellect also with the aid of a trade or a handicraft*. . . . . Therefore, it is my submission that, instead of merely teaching a trade or a handicraft, we may as well educate the children entirely through them. Look at *takli* (spindle) itself, for instance. The lesson of this *takli* will be the first lesson of our students through which they would be able to learn a substantial part of the history of cotton, Lancashire and the British empire. . . . . How does this *takli* work? What is its utility? And what are the strengths that lie within it? Thus the child learns all this in the midst of play. Through this he also acquires some knowledge of mathematics. When he is asked to count the number of cotton threads on *takli* and he is asked to report how many did he spin, it becomes possible to acquaint him step by step with good deal of mathematical knowledge through this process. And the beauty is that none of this becomes even a slight burden on his mind. The learner does not even become aware that he is learning. While playing around and singing, he keeps on turning his *takli* and from this itself he learns a great deal." [emphasis added]
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> – Excerpted from the address by Mahatma Gandhi at the Wardha Education Conference, 22 October 1937 *[Translated from Hindi, Hindustani Talimi Sangh, 1957, pp. vii-viii]*

The Wardha Conference constituted a committee under the chairpersonship of Dr. Zakir Husain to evolve a curriculum of Basic Education on the basis of the principle of placing productive work in the form of a trade or craft at the centre of the educational process, the latter being selected keeping in mind the socio-cultural milieu of the children (Report of the Zakir Husain Committee, 1938; Hindustani Talimi Sangh, 1957). While accepting the Zakir Husain Committeee Report (1938), the Indian National Congress, at its meeting held at Haripura (Gujarat) the

same year, resolved to build up a national system of education which will, among others, aim at providing education "*through the medium of some productive trade or handicraft and, to the extent possible, all other activities be built around this central craft, the latter being chosen in accordance with the conditions in which the child is placed*." The Congress further resolved to constitute a body called Hindustani Talimi Sangh to promote this national system and to prepare a concrete programme of such education.

Backed by such a clear-headed call for reorganising the nation's system of education, the seven provincial governments started setting up teacher training centres and opening schools to promote the Gandhian pedagogy of integrating the 'world of work' with the 'world of knowledge'. Yet, the post-independence Indian State continued to support the Brahminical-cum-colonial paradigm of education in terms of its epistemic and socio-cultural character. This could of course be anticipated, given the class and caste-dominated social character of the Indian State and the 'elitist' resistance to the Gandhian conception. We must, however, ask ourselves if this was an *adequate* reason for the gradual collapse of the idea. In particular, the role of the leadership of the *Nai Talim* movement in 1950s and 1960s must be reviewed in order to draw strategic lessons for the future. An unfortunate, though understandable, feature of the entire movement during this critical phase was its insistence on isolating itself from the State policies and building up the Basic Schools (*Buniyadi Shalas*) outside the mainstream school system. This stance made sense during the British *Raj* but not after independence, though research on this aspect is lacking. However, it can be stated with certainty that the leadership of the *Nai Talim* movement, comprising some of the most dedicated and perceptive educationists of the times, seemed totally uninterested in seeking transformation of the mainstream education system. Even in States like Gujarat[7], Maharashtra, Bihar or Tamil Nadu[8], where the proponents of *Nai Talim* were either themselves in the State Governments or close to the political authority, there is little evidence of concrete measures to bring about a change in the mainstream national system. This isolation was so complete that in some States (particularly Gujarat), a separate Board of Basic Education, *parallel* to the State Board of Secondary Examination, was set up with official support during 1960s. This tendency continues to be dominant even today.[9] The result was as could be predicted. The entire structure assiduously built up in several states since independence has collapsed.[10] It must be recorded in passing that the present *Nai Talim* leadership was least

[7]*In Gujarat, the Nai Talim educationists even became Education Ministers and/or wielded critical political power in the state government.*

[8]*To begin with, the Madras Presidency (including the present Tamil Nadu) was an exception where Sri T.S. Avinashilingam, the first Education Minister of the Presidency after independence, introduced Basic Education in rural schools in select Blocks in 1948. After initial success and enthusiasm, the policy met with stiff resistance when it was attempted to be extended to the urban areas. Ultimately, the idea was allowed to die by the Congress government itself. Again, in the early 1950s, a determined C. Rajagopalachari as Chief Minister attempted to re-introduce the idea through "half-day schooling and half-day work at home" wherein the notion of trade or craft was to be related to the family occupation. This was for good reason perceived as promoting 'Kula Kalvi' (Casteist Education). Social activists under the leadership of Periar, the leader of the Dravida movement, opposed it as it would perpetuate the caste system. Periar conducted extensive campaigns all over the state and the policy had to be eventually withdrawn. Later, the political leadership of the new-born state of Tamil Nadu fell in line with the rest of the country by not bringing the Gandhian agenda of education in policy making. What is tragic, however, that there was no attempt, academically or otherwise, to learn from the conceptual and strategic confusion in Rajaji's otherwise well-intentioned policy and draw lessons for educational reform.*

[9]*The Nai Talim Samiti scheduled a meeting in mid-March 2005 at Sewagram to consider a proposal to set up yet another Nai Talim Vidyalaya without even probing the causes of the collapse of the pioneering institution that functioned under the guidance of Mahatma Gandhi himself and later under the formidable leadership of the Aryanayakams in 1940s and 1950s (Nai Talim Samiti, 2004 and 2005).*

[10]*There are reports that the present leadership of the Gujarat State Board of Basic Education is now persuaded to merge its institutions in the mainstream State Board of Secondary Education, without making any impact on the character of the latter.*

bothered when the Gandhian term of Basic Education along with its revolutionary pedagogic conception was promptly replaced by the Indian State in the early 1990s in light of World Bank-UN agencies' introduction of their reductionist notion of 'Basic Education' (now evident in the design of Sarva Shiksha Abhiyan too). This change marked the end of the discourse on the place of work in curriculum, thereby resulting in marginalisation of the vision the nation had inherited from the freedom struggle (Bharat Jan Vigyan Jatha, 1995; Sadgopal, 2003, 2004). Any endeavour aiming to place work at the centre of the National Curriculum Framework is obliged to draw these critical lessons from this historical overview for the future steps to be taken.

3. Critique of Policy and Practice[11]

3.1 Work-Centred Education

The Education Commission (1964-66) recommended that "work-experience should be introduced as an integral part of all education" and defined it as "participation in productive work in the school, in the home, in a workshop, on a farm, in a factory or in any other productive situation" (Section 1.25). While *clearly distinguishing between work-experience in education and vocationalisation of education (or, for that matter, even vocational education)*, the Commission stated:

> "Work-experience is thus *a method of integrating education with work. This is not only possible but essential in modern societies which adopt science-based technology.* . . . . . The need to provide some such corrective to the *over-academic nature of formal education* has been widely recognised. . . . . In addition to being an effective educational tool, work-experience can, in our view, serve some other important purposes. It can help to make the distinction between intellectual and manual work less marked as also the social stratification based on it. It could make the entry of youth into the world of work and employment easier by enabling them to adjust themselves to it. It could contribute to the increase of national productivity both by helping students to develop insights into productive processes and the use of science, and by generating in them the habit of hard and responsible work. And it might help social and national integration by *strengthening the links between the individual and the community* and by creating bonds of understanding between the educated persons and the masses." [emphasis added]
>
> – Report of the Education Commission (1964-66), Sections 1.27-1.29

It must be recognised that the Commission's recommendation to integrate work-experience into education falls short of the Gandhian conception of using productive manual work as a pedagogic medium of education – as an *essential (and also universal)* element of the curriculum. The vivid descriptions of learning languages (with emphasis on *articulation* as opposed to *imposition*), mathematics, science, environment, history, geography or civics from *takli*, carpentry, iron smithy, farming, printing or other contemporary tools of production in Gandhi's or Zakir Husain Committee's pedagogic descriptions are not adequately reflected in the Commission's Report. Also, there is no evidence that the Commission appreciated *Nai Talim's* vision of being "the spear-head of a silent social revolution fraught with the most far-reaching consequences". While planning the curriculum of today's schools, we need to be aware of the *ethical, political and social dimensions of pedagogic integration of work with the learning process*. Both Sykes (1988, 1998) and Fagg (2002) deal with these dimensions of *Nai Talim* extensively.[12]

This might also explain why the Commission, while advocating "forward-looking type of work-experience for every child" irrespective of rural-urban differences,

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[11] *This Section draws upon the Discussion Paper presented by Prof. Anil Sadgopal, Chairperson of this National Focus Group, at the first meeting held at NCERT, New Delhi, on Dec. 27-30, 2004 (Annexure I).*

[12] *Both of these studies attempt a critical view and philosophical elaboration of the Gandhian conception of education.*

recommends that "a beginning should be made immediately *in selected schools*" and then steps be taken to increase the facilities "*as rapidly as possible*. (Section 8.77)" [emphasis added]. Nor does such a graded approach help build a vision of a common *curricular framework*[13], as its implementation is apparently made contingent upon the State's willingness to make adequate resources available, rather than a matter of national priority for curricular transformation in the *entire* school system. Also, there is plenty of evidence from the history of experiments in education in India (including *Nai Talim* and Tagore's *Sriniketan*) that tells us that any partial introduction of a new idea, howsoever beautiful it might be, in *selected* schools is never accepted by the parents as they feel insecure about their children who are bound to be alienated from the mainstream.[14] It would be worthwhile inquiring whether the nation's failure in making work-experience a pedagogic basis of learning in the school curriculum is a consequence of this hesitant approach recommended by the Commission itself.

This ambiguity in policy recommendation is reflected in the National Policy on Education–1986 being more concerned with students' 'entry into the workforce' and pre-vocational programmes to "facilitate the choice of the vocational course at the higher secondary stage" than with placing work at the centre of curricular development. The underlying premise seems to be that work-experience is meant for building the workforce and vocational courses, rather than for providing a powerful medium for acquisition of socially relevant knowledge and building up creative and purposeful citizens. This confusion is at the root of the widespread tendency *to equate vocational education with work-centred education* and *vice-versa*. In this attempt at what amounts to 'reductionalism', the policy framework of work experience also ends up ignoring the relationship of this critical curricular dimension with socio-political relevance and epistemic character of education and, thereby, also its quality.[15]

[13] It is imperative that we distinguish 'curriculum framework' from 'curriculum' and 'syllabus' and not use them as synonyms. The latter two can be regional and/ or state-specific as long as they broadly follow the national curriculum framework, as also specified in 1986 policy (NPE-1986, Sections 3.2-3.4); there is full provision of flexibility in curricula and syllabi provided a 'common core' is retained (NPE-1986, Section 3.4). The policy further provides for contextual text books and other learning materials as well as plural learning processes that would reflect the rich geo-cultural diversity of the country. In light of this policy framework, it would be worthwhile to investigate how and why the curricula, syllabi, textbooks and the learning process have come to acquire rigidity and are, by and large, alienated from local socio-economic and cultural milieu. ***Why indeed did NCERT publish textbooks at all when these can't be contextual?*** *A similar argument will apply to SCERTs as well. The pre-dominant influence of the evaluation parameters and the examination system in enforcing rigidity and promoting uniformity, in violation of the curricular principles as well as the policy framework, also needs to be studied. In this context, the Acharya Ramamurti Committee Report (GoI, 1990) and the Yash Pal Committee Report (GoI, 1993) will be particularly helpful.*

[14] The most recent example of this phenomenon is the Hoshangabad Science Teaching Programme (HSTP) which won nation-wide recognition for making the entire science curriculum activity-based, inquiry-oriented and contextual at upper primary level. It was implemented in more than 1,000 schools (mostly government and government-aided) of 14 districts of Madhya Pradesh during 1972-2002 with full involvement of the government system. Yet, it never became the policy of the state government to teach science in a scientific manner through contextual activities and experiments in the entire state school system. The result of this half-hearted approach eventually created conditions for destabilisation of the programme and gave the state government an opportunity to take the retrogressive step of closing it in July 2002. The result: these 1,000 schools with more than one lakh students reverted back to learning science by rote like the rest of the schools in the country. This experience is clear evidence of lack of conviction and clarity at the level of policy making.

[15] It may be noted here that there is an increasing tendency in the academic discourse to de-link the issue of the quality of education from that of its social relevance. This tendency has begun to impact upon field practice, planning and research especially since the two policy changes were made viz. (a) allowing the entry of international funding of primary education in India from 1993-94 onwards; and (b) the relatively more recent phenomenon of the government giving increasing space to private corporations and their Foundations/ Trusts (particularly those related to ICT industry) and NGOs in defining and determining the pedagogic quality of education in the name of public-private partnership (see Sarva Shiksha Abhiyan framework, GoI, 2002 and Education For All, GoI 2003). The issue of the relationship between the 'world of work' and the 'world of knowledge' in the emerging discourse stands either marginalised or trivialised as one of merely training students in vocational skills and preparation of work force for the market. It must be clarified that, while the objective of skill development is integral to education, the holistic purpose of education related to socio-political relevance, epistemic character and pedagogic quality of education can't be allowed to become subservient to market. Unless checked consciously, this tendency will have an adverse impact, as brought out in several studies and National Sample Surveys, on the goal of universalising education as no child will devote 8 or 10 years of her life in an educational programme which lacks both relevance and pedagogic quality.

This concern is being articulated here precisely because the prevailing curricula in various school systems neither reflect Basic Education's vision of work as a pedagogic basis of education nor Education Commission's conception of work-experience. The radical vision today stands both marginalised and trivialised in practice. Ironically, the three curriculum frameworks designed by NCERT successively in 1975, 1988 and 2000 give a place of prominence to work-related education.[16] Yet, even the CBSE-affiliated schools, where the NCERT framework is implemented entirely, hardly reflect the original vision. Further, in popular perception as also in academic discourse, work-experience is often confused with vocational education[17], something which Gandhiji, as quoted above, warned us about in his address to the Wardha Conference in 1937!

3.2 Community Work and Social Action

The place of community work and social action in the school curriculum flowed out of the concept of work-centred education wherein productive work provided a natural link with society (Zakir Husain Committee, 1938). While lamenting that that "the present educational system . . . . . is also responsible for increasing the gulf between the educated and the uneducated classes, between the intelligentsia and the masses", the Education Commission (1964-66) recommended that "some form of social and national service should be made obligatory for all students and should form an integral part of education at all stages (Sections 1.39-1.40)." The Ishwarbhai Patel Committee Report (1977), while reviewing NCERT's ten-year school curriculum framework (1975), observed that the curriculum should be capable of relating learning "closely to socially productive manual work and the socio-economic situation of the country" and making it available "in such a way that working and learning can always be combined." Preferring to term "purposive, meaningful, manual work" in the curriculum as Socially Useful Productive Work (SUPW), the Committee observed:

> "The purpose of *demarcating a distinct curricular area as Socially Useful Productive Work* is to emphasise the principle that education should be work-centred . . . . The aim of this curricular area is *to provide children with opportunities of participating in social and economic activities inside and outside the classroom*, enabling them to understand scientific principles and processes involved in different types of work and in the setting in which they are found in the physical and social environment . . . . .[it] *must not be confined to the four walls of the school, nor can they be provided by the teacher only*. Programmes should, therefore, be so planned and implemented that the local community, community development organisations and governmental agencies participate in them and cooperate with the school." [emphasis added]
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> – Report of the Review Committee on "The Curriculum for the Ten-Year School" (1977), Chapter 3, pp. 10-11.

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[16] A careful and critical comparison needs to be made of the philosophical and pedagogic place of work in the curriculum as conceptualised by NCERT in its three successive curriculum frameworks viz. in 1975, 1988 and 2000. This study will also reveal how NCERT's vision was being influenced by the changing political conditions and the shift in the economic paradigm since the onset of the recent phase of globalisation and the impact of the neo-liberal ideology on educational thinking in India. This study is yet to be made.

[17] The issue of vocational education will be examined in Sections 4.8, 5 and 7 of this paper.

[Notes: (i) The reference to 'social and economic activities' is evidence of the emerging confusion. 'Activities' as distinguished from 'Productive Work' imply decontextualisation of work. This violates the concept of work-centred education. (ii) The notion of community work and social service, as it is perceived in Indian society as also in the school system, is basically bourgeois and patronising in character. This misconception has been at the basis of planning a range of programmes wherein the children neither learn anything useful nor have the satisfaction of having done any creative work. Essentially, these programmes, including NSS, have been directionless. What is required instead is a curricular design of community work where the objective is to acquire knowledge – in science, social sciences, mathematics, languages and especially about society as a whole – and learn to work with people and be sensitive to their problems, rather than *solving* people's problems or *teaching* them something; the latter attitude can be quite presumptuous on the part of the school system. The pedagogy of "learning from the people" can be the most rewarding experience for students, teachers and the entire school. (iii) The school system is ill designed, 'over-determined' and too centralised to undertake purposive, meaningful and productive work and community activities. Its design of curriculum focused on learning from textbooks, fragmented view of knowledge, timetables, periods, evaluation parameters, examination system, value framework and lack of respect for the sources of knowledge from outside the classroom are amongst the factors that become obstacles in the path of transformation. Changes are required, therefore, at the policy level to bring about epistemic, pedagogic and structural re-designing of the whole system. (iv) A general misconception about the system needs to be flagged. When a programme or a new idea fails in education, the usual diagnosis is to blame its lackadaisical implementation. This diagnosis is based on the premise that the theoretical design of the programme, the structure of the school system and the broader policies are flawless. This premise needs to be questioned before further progress can be made. The persistence of failure must make us sit up and ask ourselves whether something is not wrong at a more fundamental level. There are studies now available which show that, more often than not, the policies, the programme designs and the priorities of budget allocation themselves are flawed and the failure is a result of "reasonably efficient and faithful implementation of flawed policies" (Sadgopal, 2003, 2004a). This observation is being made in the hope that it might help us in understanding why the otherwise seemingly sensible ideas have not worked.]

The concept of SUPW, as proposed by the Ishwarbhai Patel Committee, was fully endorsed by the National Review Committee on Higher Secondary Education with Special Reference to Vocationalisation (i.e., Adiseshiah Committee, Govt. of India, 1978) for the +2 stage. Yet, the dimensions of social relevance and work-centredness of the education system remained weak. None of these high-level committees saw the basic contradiction in the proposal. How can a *separate* subject termed SUPW (or call it by whatever euphemism you like), designed as a separate period in the school timetable, fulfill the goal of work-centred education wherein participation in productive work is expected to become the medium of *knowledge acquisition, developing values and skill formation*? Isn't the very notion of a *separate* subject called SUPW a denial of the Gandhian principle? Isn't this idea itself at the root of the dichotomy that is characteristic of the Brahminical-cum-colonial paradigm? Productive work in SUPW was frequently reduced to recreational activities and what is referred as 'hobbies'. This dichotomy of knowledge and work also impacted upon the design of the community work programmes which

were soon to be trivialised as *patronising extra-curricular activities* based on questionable premises[18] and turned into a mockery. Apparentally, the vested interest rooted in class, caste or patriarchy (or combination of these) is served by consigning community work to the extra-curricular domain, rather than recognising it as the curriculum itself. Teacher education curriculum faithfully reflects this character of school education. It would not be an over simplification to assert that SUPW was readily institutionalised in the school system precisely because it called for no fundamental changes in the system (it even offered a 'model' timetable!) and allowed the contradictions not just to persist but also to further widen the socio-cultural divide!

While getting ready for the formulation of a new education policy in 1985, the Government of India issued its perspective document on policy entitled, 'The Challenge of Education – A Policy Perspective' which observes:

> "Socially Useful Productive Programmes, National Service Scheme (NSS) and other similar initiatives have not yielded the desired results, largely because the character of examinations determines the curricular content and methodologies of education and also circumscribes the attitude of students. Over the years, the examinations have become memory-based, highly routinised and unconcerned with the evaluation of the total personality, attitudes and values, and unable [?] to the mental ability and physical dexterity of students."
>
> – 'The Challenge of Education – A Policy Perspective', GoI, 1985
> Sections 4.96 & 4.98

It is evident that the policy makers seemed to know the alarming impact of the examination system on the relevance and quality of education. The consequent 1986 policy reflected this concern and resolved "to recast the examination system so as to ensure a method of assessment that is a valid and reliable measure of student development and a powerful instrument for improving teaching and learning" (NPE-1986, Sections 8.23-8.25). Yet, the colonial character of the examination system hardly changed; it may have become worse.

What the policy makers did not seem to know was why their recommendations failed to reform the examination system. This lacunae in understanding is apparently a result of not asking the *obvious question*: whose interests does the present system serve? It would be easy to see how this irrational and discriminatory system fulfills the following objectives: (a) it manages to screen out (i.e. *push out*) a substantial proportion of children from the school system (more than two-thirds of the children in the relevant age group do not cross the barrier of Class X; amongst the SCs and STs, this excluded category of children constitutes more than 70-80 per cent of the population); downward extension of the evaluation parameters to the elementary stage ensures that more than half of the 6-14 age group is in the out-of-school category; (b) This phenomenon makes it possible for the privileged sections of society to continue to maintain their dominance over the benefits of the economic system and control over the natural resources; and (c) only those forms of

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[18] *For instance, high school students are sent out to villages or urban slums to teach people the value of nutritious food for their children. This activity is based on the premise that parents provide non-nutritious food because they are ignorant about the scientific facts about nutrition. The entire issue of poverty and disparity is ignored in planning this activity. An alternative programme would require students to undertake a well-designed study of why do children suffer from malnutrition, followed by the designing of an intervention based upon the outcome of their study. The learning involved in this alternative design of community action will be rooted in a multi-disciplinary approach to acquiring knowledge and empathy for the people's problems. This implies that the activity will not be a separate period called SUPW but will replace the whole day or days of school life and the knowledge gained through this experience will not be repeated in the conventional classroom teaching of biology, chemistry or social science. This is not an extra-curricular programme but the curriculum itself!*

knowledge will be generated, transacted and promoted which will help maintain the interests of either the upper classes/castes or the global capital and the market; the forms of knowledge and skills that are likely to challenge this epistemic hegemony will be systematically excluded along with the people who have access to such forms. **This perception might also help explain why the sensible recommendations of the Yash Pal Committee (1993) continue to remain unimplemented. The implementation of these recommendations is expected to lead to a significant decrease in the proportion of 'push outs' from the schools and this is precisely what the policy makers have striven hard to avoid, particularly after the Structural Adjustments of the neo-liberal phase.** This situation will not change as long as the *obvious question* is avoided.

4. Children, State and Education: Context, Concerns and Issues

4.1 Economic Scenario and Globalisation

Twin papers (Mehta, 2003, 2004) have analysed the latest NSSO's household consumer expenditure and other data (1999-2000) in conjunction with related agricultural statistics and thereby established that in the post-liberalisation decade of the Nineties (a) the percentage of people living below the poverty line had drastically *increased*, touching the level of about 75 per cent [according to Planning Commission, the poverty levels have *declined* from 36 per cent in 1993-94 to 26 per cent in 1999-2000]; and (b) agricultural employment has declined significantly, pushing the workforce out of the agricultural sector which could not be accommodated in either the manufacturing or the service sectors. The significance of these warning signals needs to be appreciated in the context of some other critical dimensions of the emerging scenario. For instance, as already mentioned, almost 93 per cent of the workforce is engaged in the unorganised sector where labourers do not manage to earn even their Minimum Wages which in itself is computed to suffice barely for the prescribed caloric requirement. In the notion of Minimum Wages, there is no space even at the theoretical level for 'luxuries' such as clothes, shelter, education, sanitation, health or leisure. The notion of Living Wages, as provided for in Article 43 of Part IV of the Constitution, is not even part of the developmental discourse, the planning for poverty alleviation or the political negotiations. In view of the prevailing hype on Information and Communication Technology (ICT), it may be noted that, as per a recent study, less then 0.2 per cent of the workforce is engaged in this sector.

We need to further recall that the rapid changes in technology that are driving the neo-liberal market economy are already leading to (a) drastic narrowing of the social base of participation in production; (b) exacerbation of socio-cultural (including ethnic, caste-based and linguistic) and gender discrimination; and (c) the diminishing access to common property and other natural resources. Such changes are further marginalising vast sections of the population, depriving their access to education, health and other social welfare measures. Clearly, the girl children (particularly the disabled) of the SCs, STs and the cultural and linguistic minorities are among the worst sufferers. At the same time, the NSSO surveys on household expenditure show that the sections of population at poverty line have considerably reduced their *relative* expenditure on food. Between 1973-74 and 1999-2000, the proportion of expenditure on food by these segments has decreased from 80 per cent to 64 per cent. A major part of the decline can be accounted for by the proportionately increased expenditure on health and

education (Mehta and Venkatraman, 2000). This seems to suggest that, while the State is progressively abdicating its Constitutional obligation to provide support for education of equitable quality to the masses (Sadgopal, 2003, 2004), the poor are choosing to invest in education even at the risk of their food security. This is a clear evidence of the aspirations of the poor for a better quality of life through education, a fact that has been brought out time and again in several of the previous studies (for example PROBE, 1999).

The Indian State was obligated under the Constitution to play a progressive role in support of the deprived sections of society and direct its policies to move towards a democratic, egalitarian and social order. However, both the notion of welfare State itself and its political agenda are rapidly being substituted by the global market. On the one hand, this increases the desperation of a substantial proportion of Indian population in their struggle for a life of dignity and justice. On the other hand, the process of globalisation shifts the battleground in large measure from the Parliament and Vidhan Sabhas to the power centres of the global capital and signals the need for new alliances among the suffering masses at the global level, including those of the developed economies. All of this will have to be kept in mind while reconstructing policies in support of work-centred curriculum and/or the Vocational Education and Training Programme (VET).

4.2 Education and Incompetence[19]

It is widely acknowledged that a substantial *majority of students* coming out of the education system, whether at the school or the first degree stage, is quite *incompetent*. For instance, someone studied English (or, for that matter, one's mother tongue or the state language) for 10 years but can't write a letter correctly or articulate one's thoughts; studied Physics up to B.Sc. but can't repair an electric iron or explain why a fuse keeps blowing and remedy it; or studied economics but can't explain the recent price rise in sugar or cotton. The young people in urban high schools catering to the middle class or the privileged sections of society generally do not have the basic psycho-motor, manual skills for doing some household ordinary jobs. Also, they are both unable and unwilling to take part in cooking, sweeping and mopping floors, gardening, cleaning toilets, washing clothes etc. as these tasks are considered to be below one's dignity or social status (no one at school would, however, inquire how the women, belonging to the same class/caste groups, manage to do all these tasks throughout their lives without losing their caste status or identity!). In other words, they have a piece of paper or certification but there is little backing to that paper, in terms of skills or competence. It would not be an exaggeration to state that the school manages to (a) alienate the child from the knowledge base she had acquired from her family and community; (b) destroy her pride in her productive labour as well as her commitment to the related values; and (c) de-skill her of the multiple skills she had gained before coming to the school.

In the category of skills that are either given low priority in the curriculum or are ignored altogether, one may think of several more, namely social, intellectual, psychological and relational skills and those related to articulation, communication, organising, leadership, initiative, entrepreneurship etc. Attributes such as creativity, intuition, public accountability, social empathy, cultural sensitivity or scientific temper are also not integral to the curriculum inspite of the prevailing rhetoric 'glorifying'. Even in the academic domain, the knowledge is so shallow, bookish and peripheral that it largely represents a perfectly useless accumulation of information, useful to pass an examination but largely

[19] *This Section is based on the contribution made by Fr. T.V. Kunnunkal, Member, National Focus Group on 'Work and Education'.*

unfit for later use. Life continuously makes demands for *on-the-ground competence*, not for theoretical knowledge *alone,* the latter's critical role in social development notwithstanding. Hence, the majority of those coming out of the system are not *confident* either. *Education hardly makes them self-reliant, confident and enlightened persons.* Some might refer to the many successful persons who go abroad and make good. Have we looked into the *re-education* (that involves *unlearning*) process and attitudinal transformation that they went through in order to become competent and effective persons, using their original and largely unused brain and psycho-motor potentials in more challenging conditions? The challenge before our education system is precisely this: **to create epistemic, cultural and pedagogic conditions such that the present gulf between knowledge and work will be bridged during school and thereafter.**

4.3 Work and Knowledge[20]

The discussion in Sections 2 and 3 reveals that the dominant discourse in education could not accommodate work as a pedagogic medium. This is primarily due to the following reasons:

- *Pre-eminence of structures of knowledge that render only dominant elite knowledge as 'visible', 'valid' and 'certifiable'.* In the process, the pedagogy of the vast productive forces i.e. learning through productive work, has been excluded from the entire education system, including the school curriculum.
- *Pedagogy premised on the idea that all knowledge is universal and non-contextual, and can be built up by mere addition of incremental inputs.* The curriculum, therefore, tends to become a collection of information and the reform of curriculum becomes the addition or removal of information.[21]
- *Received notions of processes of learning based on a notion of the so-called 'normal' and 'national' child.* This abstract concept is nevertheless marked by its location within the matrix of the upper caste, upper class non-disabled male (most likely from the Hindi heartland). The notion of ideal universal childhood (characterised by innocence, vulnerability and absolute dependency on adults) is supported by the textbook writers, and illustrators, policy planners, teacher-educators as well as the visual culture (TV, Photography) in most societies; the middle class academia and bureaucracy as well as the international child welfare organisations concerned with distribution and monitoring of funds (see Vasanta, 2004 for a detailed discussion).
- *Hegemonic educational theory and practice* embedded in the curriculum, textbooks and evaluative procedure that reflect and address the life world of this so-called 'national' child.
- *Textbook-centred pedagogy that is premised on dominant structures of knowledge* and which delegitimises the knowledge and experience of children who do not fit into the normative construct of the 'national' child.[22]
- *Teacher education courses designed on the above premises.*

[20]This Section is based on the contribution made by Dr. Deeptha Achar, Department. Of English Studies, M.S. University of Baroda, Vadodara.

[21]This might explain partly why it has not been possible for the curriculum developers to internalise the recommendations of the Yash Pal Committee Report (GoI, 1993).

[22]This is precisely why the Gandhian proposal to do away with centrally prescribed textbooks could never be internalised by the education system because the knowledge emerging out of productive work would provide an epistemic basis to pose a threat to the dominant knowledge-value-skill paradigm. Work-centred education, as proposed here, also does not conceive of any particular prescribed textbook. Instead, the children and teachers would access a whole range of texts and other plural sources of knowledge to learn in the context of the specific questions or challenges thrown up by the productive work experience. Thus a small but imaginatively created school library should, over a period of time, replace centrally prescribed textbooks at all stages of school education. The pace of school libraries replacing textbooks shall be determined by the pace at which policies affecting curriculum framework, pedagogic practices, teacher education, evaluation parameters, assessment procedures, examination system and finally school infrastructure are progressively reformed.

Creative Worlds: My Life, My Knowledge, My Survival

(Full text in Annexure VIII)

". . . . .This theme of knowledge as weapon has come back to us many times in the last three decades. . . . . In the mid-90s, we had another set of visitors, but this time from the high ranges of Kullu district in Himachal Pradesh. Their villages and hamlets were being threatened by the declaration of the Great Himalayan National Park. What exactly was this Park, they asked, and how could they protect their families? . . . . . .A young bunch of grazers and farmers listened attentively as we explained how the government had commissioned a study in the 80s and how this study, conducted by a pair of specialists from the Pheasant Society in the UK and Canada, had come to the conclusion that only by declaring the Park as a protected area could the rare Western Himalayan Tragopan (a ground-dwelling bird) be saved. . . . . .No, they protested, it is not possible for the Tragopan to be disturbed by our herds because it nests in late winter and our grazers go up only in late spring. Even that figure of 25,000 animals is wrong, they objected, our numbers rarely cross 12,000. And it is not us who destroy the herbs, but the Nepali labourers from the Terai, who are unfamiliar with alpine ecology and are hired by the traders in the plains."

"We suggested to them then that they should do their own study and compare their findings with what had been reported by the foreign experts. . . . . .So, for the next two days, we demonstrated to them how to draw transects and conduct animal counts, how to document the diversity of grasses and shrubs, and how to systematically record their observations. As soon as the snows melted, six of them headed towards the alpine meadows, following the same route that the scientists had taken ten years earlier. . . . . .Six weeks later they returned, armed with a range of documented observations. . . . . .their records showed that they had successfully challenged every one of the findings of the government-sponsored study. In addition, their measurements indicated what was the carrying capacity of the meadows, how ruminants were in fact controlling weed infestation, and how the herbs could be harvested within the boundaries of conservation."

"This much, then, is certain: people fight their struggles for survival based on what knowledge they can create. Each one of the reports and studies cited above . . . . . .indicates that ordinary working people have the capacity to learn, to collect information, to look at it analytically, and eventually use it for bettering their own lives. This is, or should be, the central objective of "education". And yet, these are simple (and yet very complex) tasks that are not undertaken by our educational institutions. . . . . .Perhaps another Macaulay is required to explain it to us in yet another Minute. And perhaps, in some not too distant future, a group of young labourers will learn to document their own lives to tear this farce to pieces."

– Dunu Roy

Hazard Centre (*Khatara Kendra*), *New Delhi*

4.4 Child Work vs. Child Labour[23]

What constitutes 'work' as far as children are concerned largely stems from the different constructs of childhood upheld by groups belonging to different socio-economic status within a given society. In the upper economic classes, there is extended childhood with financial protection provided by the family till the child finishes her/his chosen field of studies and gets into a job. Among the lower income families, on the other hand, the gap between childhood and the next life cycle is much shorter in that children from these sections of society get involved in the adult world of work well before their teenage (Antony and Gayathri, 2002). In a vast majority of rural as well as urban families, adults demand support from children in household management and supporting parents is considered as part of growing up or being socialised into adulthood. Takei's (1999) study based on a village in Andhra Pradesh, for instance, revealed that the work done by the children in this village is completely embedded in the life structure of their society; that it is an important part of their socialisation and that it helps the family indirectly as much of this work (fetching water, taking care of livestock, preparing food, agricultural work, taking care of siblings etc) is not wage-based work. Therefore, Takei argues that child labour is not a valid concept to characterise such work.

Any discussions on extending universal education to all children in the age group 6-14 years should, therefore, consider the local conditions affecting homes and schools in different communities – the nature of caste-based occupations and how boys and girls are socialised into taking on adult responsibilities (e.g. gender roles).[24] So long as work and education are seen as dichotomous categories in children's lives, this problem will persist, especially when one is planning for a work-centred curriculum. Examination of the narratives of child labourers, school 'push-outs' and/or 'walk-outs' and children who are able to share household responsibilities alongside attending school (some examples can be found in Anveshi, 2003) reveals that childhood without work is completely untenable in our context where there exists a symbiotic relationship between adulthood and childhood.

The past two to three decades have witnessed a considerable rethinking about the received notions (dominated by the west) regarding the ways of learning and knowing among children from different parts of the world. There is a consensus on the *positive role played by knowledge that is shared and developed between and across generations – knowledge that is derived directly from personal interaction with the physical world in cognitive development*. In fact, the proponents of new childhood studies are arguing that *childhood is a constituent part of the social order* and not a preparatory stage and that *children's learning and experiences are to be understood as the site of complex political tensions between children, parents and the State*. There is a *need to understand the interpretive competencies of children in making sense of their social worlds and in constructing their childhoods*.

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[23]This Section is based upon the contribution made by Dr. D. Vasanta, Department of Linguistics, Osmania University, Hyderabad.

[24]This and the following statements in this paragraph must not be misconstrued as advocacy for either non-formal paralled educational streams or caste/gender-oriented assignment of work in work-centred curriculum (cf. Footnote 8 on p.5 with respect to the misconceived policy of family occupation-based 'half-day schooling and half-day work at home' nicknamed "kula Kalvi" or casteist education, introduced in Tamil Nadu in the early 1950s). On the contrary, the Common School System, an essential pre-conditon for work-centred curriculum, will ensure that each classroom fully reflects the local social diversity. It is in such a diverse classroom that the rich knowledge base, social insights and skills of the marginalised children in relation to their habitat, natural resources and livelihoods can become a powerful source of their dignity and strength.

This emerging re-thinking on the notion of childhood has a critical bearing upon education in general and work-centred curriculum in particular. The knowledge, values and skills that children from the marginalised sections acquire from their intense interaction with the physical and social worlds gives them an edge over those who are deprived of such opportunities. The challenge before the planners of work-centred education will be *to turn this experiential background of the marginalised children into their advantage* by enabling them to participate in school with dignity, self-confidence and strength.

4.5 Education and Alienation[25]

In the following Section 4.8, we will present secondary data from government statistics to draw attention to the alarming rate of alienation from school education which the policy makers prefer to term 'drop-out rate'. However, field studies and the NSSO data reveal that the children of the SCs, STs and religious and linguistic minorities, especially the girl child in each of these categories, are not just 'dropping-out' voluntarily or out of ignorance but are either 'walking-out' in conscious protest or are being simply 'pushed-out'.[26] This is a clear indication that the deprived sections of society (representing more than half of the child population) are deeply alienated from the school system. At one level, as argued above, the 'knowledge' of the school system has emerged from structures that uncritically delegitimise and denigrate local community-based knowledge; the curriculum and curricular transaction also reinforce gender and caste stereotypes (see Position Papers of the National Focus Groups on 'Problems of SC and ST Children' and 'Gender Issues in Education'). Students from marginalised communities cannot draw on past learning to build ground concepts because this knowledge is invisible and unavailable as a pedagogic resource in the school curriculum. Many *dalit* intellectuals have critically examined the question of knowledge in a caste-based society: they have argued that the Brahminical hegemony over knowledge implicitly devalued claims on knowing, especially of those rooted in the production process (Guru and Geetha). Ilaiah (1996) has written a poignant account of how alienating and humiliating school experience can be for children of marginalised communities. Most importantly, this has served to destroy self-esteem and confidence in the context of learning.

At another level, the school system as it exists today does not offer, for a substantial proportion of the students, the possibility of a better life engendered by opportunities of breaking out of oppressive structures. Passing a public examination is no guarantee of employment or livelihood. Nor does it equip children with skills to contribute to the local economy and support themselves; in fact, it leaves children alienated from the knowledge and skills available in the local community (Sarangpani, 2005).

What this Position Paper argues for is a pedagogic vision that can challenge the upper caste/class

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[25]This Section is based on the contribution made by Dr. Deeptha Achar, Department of English Studies, M.S. University of Baroda, Vadodara.

[26]This must not be viewed as merely a matter of semantic switch-over as it has deep implications for the nation's vision of UEE. Indeed, the persistent use of the term 'drop-outs' in the policy discourse is itself an evidence of the false premises on which the policies addressing UEE have been founded. This critique applies to all of the post-independence policies and programmes, including the World Bank-UN sponsored programmes (e.g., DPEP, EGS, multi-grade teaching) and now the Sarva Shiksha Abhiyan. These policies are premised on the view that 'all is well' with the school system and all what is required is a set of 'strategies' to bring the out-of-school children into the schools or now the parallel layers of inferior quality 'education' the new programmes are designed to offer. These mechanically designed 'strategies' will continue to collapse as long as they do not directly address the question of the socio-cultural and pedagogic character of the school curriculum and its underlying epistemic roots.

hegemony over the curriculum by placing productive work (in which masses are bound to have an edge over the privileged sections) at the centre of curriculum, just as Gandhi had conceived (Krishna Kumar, 2005). However, the paper recognises that productive work needs to be introduced in such a manner that it not only draws on structures of knowledge and acknowledges life situations that exist in marginalised communities but also offers a critical frame in which these might be assessed even as newer kinds of work pertinent to the contemporary context are introduced (see Section 6.3 on 'Typology of Work in Education'). This is in keeping with the pedagogical principle of moving from the *known to the unknown*. By introducing work as part of curriculum, it may become possible to draw on community resources[27] to make learning meaningful as well as to equip children with knowledge and skills that will allow them to access higher education and/or support themselves in the emerging economy.

4.6 The Gender Issues

As discussed in Section 4.3, the dominant elite character of knowledge, related to the upper class/ caste structures of Indian society, is embedded in the curriculum, textbooks and evaluative procedures. To this we add the patriarchal dimension of knowledge that defines both the overt and hidden curriculum. This can be countered by developing "a feminist critique of knowledge . . . .inextricably linked to political practice, which includes struggles for equal opportunity and economic independence, struggles against male domination over reproduction and women's sexuality, and struggles for a more just society" (see report of the National Focus Group on 'Gender Issues in Education'). In the context of work-centred curriculum and Vocational Education and Training (VET) courses, it would be useful to recall the following excerpt from the above-mentioned report:

"Schooling reinforces the gendered inequality of socialisation across all divides. The schooling of girls remains embedded in the societal context even though it provides an expanded space for growth of women. In fact, school curriculum and schooling become active instruments of cultural reproduction and social control . . . . .Schooling becomes another form of domestication. For example, school textbooks depict this gender-based domestic division of labour. In the classroom too, just as *dalit* children are expected to perform the menial tasks, girls are often relegated the work of cleaning and sweeping, reinforcing the gendered division of labour."

The work-centred curriculum and VET courses must ensure that productive work does not become a tool for promoting gender stereotypes. It would be a challenge to design pedagogy in order to "empower girls from diverse backgrounds to overcome disadvantages rather than reinforce their subordination." Further, UEE implies that a substantial proportion of girls would be drawn from families engaged in the unorganised sector of the economy. We might, therefore, refer to the report of the 'National Commission on Self-employed Women and Women in the Informal Sector' (Shramshakti Report, 1988) which recognised all women as workers "because they

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[27] *Apart from materials and local knowledge, these would also include knowledgeable persons from the community who may act as guest teachers (cf. Box on pp. 39-40 concerning "Honorable Teachers"). However, it is imperative that the community resourses are subjected to critical scrutiny before they find their way to the classrooms.*

are producers and reproducers" and contended that their role and contribution to national economy must be appropriately valued. The Commission further proposed that "provision of productive assets in the hands of women . . . . . .have led to qualitative improvement in their life over a period of time" as long as this is combined with acquisition of "inputs such as knowledge, skill, organisation and confidence." This is precisely where work-centred education with its emphasis on developing 'generic competencies'(see Section 6.2) has a critical role in focusing on girls' differentiated capabilities and, at the same time, in enabling them to question the patriarchal social control over their lives and finally in seeking to reconstruct the gender relations in society.

4.7 The Challenge of Disability

The Position Paper of the National Focus Group on 'Education of Children with Special Needs' has advocated an agenda for inclusive education which will make "the curriculum flexible and appropriate to accommodate the diversity of school children including those with disability in both cognitive and non-cognitive areas." This calls for a range of systemic reforms including removal of all physical and pedagogical barriers that prevent the participation of the disabled children in regular schools. The paper lists several benefits that will also *flow to the children without these limitations (they may have other limitations) as a result of inclusive education* such as experiencing differential abilities of the disabled, acquiring special skills of communication with such children and learning to participate in a pluralistic society. All these principles must inform the planning of work-centred curriculum and VET courses for the disabled children in inclusive settings. The collective (i.e. team-based) mode of learning in work-centred education offers a unique challenge to evolve a mutually supportive role of the children with and without physical or mental disabilities. Apart from these considerations, the following concerns may also be kept in mind[28]:

- Society largely perceives disability as a medical issue. That is, society associates disability with physiological, anatomical, or mental "defects" and holds these conditions responsible for the disabled person's lack of full participation in the economic life of our society, rather than viewing their exclusion for what it is — a matter of hard-constructed socio-economic relations that impose isolation (and poverty) upon the disabled people. This "medicalisation" of disability places the focus on curing the so-called abnormality — the blindness, mobility impairment, deafness, mental or developmental condition rather than constructing educational and work environments where one can function with such impairments.
- Disablement is a product of the political economy or the interaction between individuals (labor) and the means of production. In this view, disabled people's oppression can be traced to the restraints imposed by the economic system. Those who control the means of production in our economy impose "disability" upon those with bodies which have impairments perceived as not conforming to the 'standard' (i.e. more exploitable) worker's body.
- The employers are bound to resist any extra-ordinary cost (like putting a ramp or providing an elevator or a sign language instruction). From a business perspective, the hiring or retaining of a disabled employee represents non-standard additional costs when calculated

[28]*These observations are based upon the contribution made by Dr. Anita Ghai, Reader in Psychology, Jesus & Mary College (University of Delhi), New Delhi.*

against a company's bottom line. Employers characteristically assume that they will encounter increased liability and lowered productivity from a disabled worker.

- Such notions have a direct impact on the educational system which becomes an ally in keeping the disabled unskilled, thereby adding to their woes. In this sense, disability represents a social construct which defines who is offered a job and who is not. An employee who is too costly (significantly disabled) is not likely to become (or remain) an employee at all. Therefore, we teach skills that have little or no meaning outside the special school classroom. With these so-called vocational skills that we impart, the disabled will never be able to catch up with their peers or transfer the skills taught in school to the real world, because society has no jobs for them. Thus we deny most of the disabled a real chance of becoming gainfully employed and living a healthy life.
- What needs to be remembered is that disabled are not a homogenous group. So while a more vocationally oriented programme would certainly benefit some specific groups of children, the system actually has a habit/history of placing far too many children in special education in the first place and then fitting those children in 'lifeskills' classrooms.
- While we most definitely need to do a much better job advising children and families with regards to their future objectives, we also should not be presuming those outcomes even before they are attempted. Presuming what they can do and where they can go before we even get started goes against the goals of education. What is needed is that the teachers are trained to create realistic and meaningful education that has opportunities for productive work for all. The goal is to get students as good a shot at life as they can get.
- The tendency to invariably place the disabled in a separate category is alarming. It is because we are made to see them as deficient, that we talk about providing skills that will provide the bare minimum to them but not make them capable of becoming productive citizens of the country.

A work-centred curriculum has a special significance for the disabled as it facilitates a multi-sensory and purposeful approach from the pre-school stage onwards. When this approach is combined with additional human and technology (including ICT) support during the school years, most of the disabled children should have a fairly good opportunity for unfolding their holistic potential in regular schools, leaving only a small percentage of acutely impaired children who might still need special schools. In this framework, the option of a modular VET course with lateral and vertical linkages would be available for the disabled child after going through 8-12 years of work-centred curriculum. This is by far a better proposition than the present limited option of a terminal vocational stream only at the Plust Two stage.

4.8 UEE vs. Vocational Education Policy[29]

The prevailing scheme of Vocational Education and Training (VET) is restricted at present mainly to those children who have completed at least ten years of formal education. This is true for those who enter at the Plus Two stage in the distinct stream of vocational education (parallel to the general or 'academic' stream)

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[29]This Section draws liberally on the papers presented by Prof. S.Z. Haider (Annexures II-III) and Prof. Davinder K. Vaid (Annexure IV), both Members of the National Focus Group on 'Work and Education' and also then on the faculty of PSS Central Institute of Vocational Education (NCERT), Bhopal.

as per the 1986 policy prescription (NPE-1986, Sections 5.17 and 5.23)[30] as well as those who seek training in ITIs or Polytechnics after obtaining a Class X certificate (Class VIII certificate in some trades). A serious concern was expressed at this National Focus Group (NFG) meetings with regard to the following three groups who do not have any access in the prevailing policy perspective to vocational education and training: (a) more than half of the 6-14 age-group children who either do not enter school at all or leave school without completing even primary/elementary education[31]; (b) almost two-thirds of the children who do not complete Class X (the so-called 'drop-out rate' among SC and ST children at Class X is 71.9 per cent and 80.3 per cent respectively); as per one estimate, at least 77 per cent of the children in the 16-18 age-group (almost 3.6 crore) and 56 per cent of the 14-16 age-group (almost 2.6 crores) who do not even enter the Plus Two and secondary stages respectively; and (c) less than 7 per cent of the relevant age-group enter higher education. The present policy thus implies that almost 17 crore children in the 6-18 age-group (out of a total of about 29 crore children) are not even eligible to enter any formal programme of vocational education and training whatsoever. The actual access to vocational programmes is indeed miniscule. The only opportunity of skill formation and thereby improving employability they have exists either in the vast informal and non-formal space offered by the unorganised sector (masonry, plumbing, electrical works, auto-repair, equipment maintenance, tailoring, turner, welding etc.) or the recently emerging scope (still quite restricted) of training offered by the organised sector on low-stipend internship model under the Apprenticeship Act. The contribution of the organised sector in this regard is limited by the fact that this sector employs no more than 7 per cent of the workforce in India. In any case, the Government plays essentially no role in vocational education and training offered by either the vast unorganised or the organised sectors, not even in monitoring the quality or establishing equivalence in certification. The NFG members who articulated their concern for the lack of access to vocational education and training for the vast majority of children and young people and the negligible role of the State in this critical field, contended that a realistic policy to address this crisis is a pre-requisite, along with other factors, for an egalitarian, democratic and enlightened development of Indian society.

5. Basic Policy-level Concerns

Our recommendations with regard to (a) defining the role of productive work in the curriculum; and (b) re-visioning the programme of vocational education emerge out of several critical policy-level concerns. These are being articulated below in the hope that this will help us to build a broad perspective in which the recommendations could be appreciated:

- Elementary education of eight years is a Fundamental Right of all children in the 6-14 year

[30]The Government of India had proposed that 25 per cent of the students enrolled at the Plus Two stage are diverted to the vocational stream by the year 2000 (NPE-1986, Section 5.23). However, the latest available data show that less than 5 per cent of the enrolled students at the Plus Two stage are in the vocational stream!

[31]The data released by MHRD (SES 2002-03, GoI) reveal that (a) 52.8 per cent of the enrolled children 'drop-out' (a combination of 'push-outs' and 'walk-outs'; not including 'never-enrolled') by Class VIII, the 'drop-out' rate being significantly higher in the case of SCs (59.9%), STs (68.7%) and girls in each of these sections (62.2% and 71.2% respectively); (b) the 'drop-out' rate at Class V did not decline at all between 1996-97 and 2000-01 when the World Bank-sponsored externally funded primary education programme (DPEP) was implemented in almost half of India's districts; and (c) the 'drop-out' rate at Class VIII between 2002-03 and 2003-04 (SES) did not decline significantly (the rate of decline actually slowed down), with the figure rising to 70.1 per cent for STs; this is inspite of the much-hyped Sarva Shiksha Abhiyan which has extended the policy flaws of DPEP to the entire elementary stage.

age–group as per Article 21A introduced through 86th Constitutional Amendment.

- The Fundamental Right to Early Childhood Care and [Pre-school] Education (ECCE) is extended to the children below six years of age as well when the amended Article 45 is read in conjunction with Article 21 (Right to Life) as per the judicial principles enunciated in Supreme Court's Unnikrishnan Judgement (1993).
- The education policy has failed so far to ensure the above Fundamental Right to more than half of the children in the 6-14 age-group (child population in this age-group being about 20.5 crores) and, through ICDS[32], to almost 80 per cent of the children in the age-group below six years (child population in this age-group being about 16 crores).
- A substantial proportion of those who do receive elementary education learn much less than what the curriculum expects from them (NCERT, 1994; World Bank, 2004 Table 17-19).
- The children belonging to Scheduled Castes, Scheduled Tribes, religious and linguistic minorities, physically and mentally disabled groups and girls in each of these deprived sections of society are denied Fundamental Right far more than the relatively well-off sections in both the rural and urban areas (GoI, 2004b, Table 17-19).
- Since the onset of the so-called 'liberalisation' phase in the decade of Nineties, the State has started increasingly *abdicating its Constitutional obligations* with respect to provision of elementary education of *equitable quality* for all children. This has been achieved by designing *multiple track educational facilities* (Alternative Schools, EGS centres, multi-grade teaching and back-to-school camps) which will provide varying quality of education to different sections of society and by increasing the space for the market forces to set direction in policy formulation and educational planning (GoI, 2002; GoI, 2003; GoI, 2004a; Sadgopal, 2003, 2004a).
- The cadre of teachers is being rapidly replaced by under-qualified, untrained and underpaid *para*-teachers appointed on short-term contract for teaching children belonging to the deprived sections of society.
- The State has allowed the global and national market forces to interfere in the Constitution as well as in making of the legislation relating to Fundamental Right to education (Sadgopal, 2003, 2004a).
- The policy commitment to move towards a Common School System (NPE-1986, Section 3.2) has become a major casualty (Sadgopal, 2000).
- Universal elementary education of eight years as a national goal and Constitutional obligation of the State made sense when the Constitution was promulgated in 1950 and if the goal was fulfilled by 1960 as was provided for in the original Article 45. However, the failure to fulfill the goal for 44 years after 1960 calls for upgrading the goal in view of the changed socio-economic scenario. There are three reasons why the goal needs to include universal education upto at least Class X in the first phase (XI Plan) and up to Class XII in the second phase (XII Plan):

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[32]ICDS covers only certain dimensions of ECCE, viz. nutrition and nominal health care. It does not provide pre-school education to the 3-6 age-group children. In this sense, it is an incomplete programme for the 0-6 age-group. Even this incomplete programme has managed to reach barely 20 per cent of the relevant child population. Thus the Fundamental Right flowing out of the amended Article 45 stands essentially denied. A reference may be made to the Position Paper of the National Focus Group on Early Childhood Education (ECE).

(a) India is a signatory to the UN Convention on the Rights of the Child, as ratified by the Parliament, which defines a child as a person "below the age of eighteen years", implying education up to Class XII (even some of the Indian Acts are based upon similar definition).

(b) Without a Class X certificate, hardly any options for careers or further professional growth are available (except for the ITI courses); indeed, even diploma courses for various vocations (technical, para-medical, ICT-related, media-based etc.) are available only after Class XII.

(c) Hardly any benefit of the reservation policy is available to SCs/STs without a Class XII certificate, (as per one estimate, only about 8 per cent SCs and 5 per cent STs reach Plus Two stage).

In addition, the Education Commission (1964-66) conceived of a common curriculum for all children up to Class X since this much of education was considered to be essential for building up the concept of citizenship in a democratic, secular and egalitarian society.

- The prevailing 1986 policy imperative of providing for vocational education as a *distinct stream at the Plus Two stage* has collapsed (instead of having 25 per cent of the enrolment at this stage by the year 2000, the stream barely has 5 per cent enrolment in 2004!). At least five reasons can be cited for this:

(a) Vocational education at Plus Two stage stands in a vacuum without a firm foundation of work-centred education upto Class X.[33]

(b) Vocational education was misconceived as a terminal stage lacking both vertical and lateral linkages. It was designed chiefly as a strategy for 'diverting' children from secondary/higher secondary and higher education, rather than as a *preferred and dignified option* for wage employment, self-employment or pursuing other sources of livelihoods.

[For instance, the students of the Plus Two vocational course in Nursing in Tamil Nadu were not even eligible for the B.Sc. course in Nursing since their vocational course lacked the required subjects like physics and chemistry. Vertical linkage, however, did exist in the Tamil Nadu Plus Two course related to engineering which enabled the students to enter the engineering colleges. The provision for quota in the engineering colleges in the state for the Plus Two students with vocational course in engineering is stated to be the major reason for the popularity of these courses in Tamil Nadu.]

(c) Vocational education was planned in isolation of the rapidly changing economic and technological scenario, lacking in-built design for responding appropriately to the emerging challenges *with flexibility and creativity*. Thus in several states the vocational education courses have not been revised for decades. For instance, it was reported that the vocational courses in Tamil Nadu had not been changed since the programme's inception in 1978-79.

(d) The parallel distinct stream of vocational education at Plus Two stage was perceived by the students as well as their parents for good reasons as an inferior stream ('a last resort') when compared to the academic or general stream.[34]

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[33]The policy had a provision for pre-vocational courses before Class X but this was never taken seriously by the educational planners as it did not serve the basic purpose of 'diverting' a substantial proportion of students away from the academic stream.

[34]'The Challenge of Education' document of 1985 has acknowledged that the vocational stream has been perceived as an inferior stream mainly because the academically low performing students were pushed into this in accordance with the objective of 'diverting' students from the academic stream. The perception was strengthened by the irregular and inadequate allocations, lack of a credible teacher education programme, poor physical infrastructure and training equipment, rigidity and inflexibility of the courses and low employability after the completion of the courses. However, all this can be explained as the entire scheme was designed to 'divert' students away from the academic stream, thereby making it a low priority programme for the educational planners.

(e) Inadequate resources, both human and infrastructural, were provided which never allowed the programme to reach even the critical take-off stage.

- The Central Advisory Board of Education (CABE) has constituted the following five committees relating to school education (the other two committees relate to higher education) for (a) making an alternative draft of the 'Free and Compulsory Education Bill, 2004' in order to provide for right to education of equitable quality to all, irrespective of class, caste, sex, religion, region, or language; (b) suggesting ways to build a *Common School System*, ensure equitable participation of girls in school education and move towards Inclusive Education; (c) making a blueprint for universalisation of *secondary* education (this issue has entered the national agenda for the first time since independence!); (d) integration of cultural issues into education; and (e) proposing regulatory mechanisms for textbooks both within and outside the State school system. The current exercise to review NCF-2000 must take note of these developments and *ensure that its recommendations take into consideration the CABE Committee Reports*. As the NCF review exercise comes to a close and the seven CABE Committee Reports are getting ready for submission to CABE (June 2005), it is evident that there was neither any communication between the NCF review process and the various CABE Committees nor among the CABE Committees themselves. Each one tended to act in isolation, even though their subjects of concern often overlapped with each other. This is despite the fact that there were several members who were common to both the NCF review forum and the various CABE Committees. Indeed, even when documents from one forum/ committee were made available to the other, no interest was evident in discussing them. It is a political tragedy that the academia along with the activists lost a historic opportunity to make a major intervention in policy formulation through collaborative action. What was also required was powerful public intervention in policy formulation to resist the neo-liberal forces that were trying to limit or attrition this democratic exercise even before the CABE committees had submitted their respective reports.

Let us recognise that

- Inspite of being a flawed scheme, the Sarva Shiksha Abhiyan aims at providing elementary education of eight years to all children in the 6-14 age-group by the year 2010.
- While Kerala has almost reached the goal of universal elementary education, some of the other States/UTs viz. Chandigarh, Goa, Himachal Pradesh and Pondicherry are rapidly approaching it. States such as Tamil Nadu, Maharashtra, Karnataka and Haryana are likely to catch up in the near future.
- There is no option for India but to include universalisation of education up to at least Class X (extendible to Class XII) in its political agenda in the foreseeable future in order to build an enlightened and productive citizenry in consonance with the needs of a democratic society and the fast growing globalised national economy.
- School education is entirely alienated from productive work and cooperative modes of functioning; it does not prepare the students to face the 'world of work'. Nor is the system geared to preparing the students for taking initiative, designing a skill-based venture or responding to

the challenge of entrepreneurship with social accountability, critical thinking and creativity.

- **Vocational Education must not be confused with Work-centred Education**; one must learn to appreciate the differences between the objectives and pedagogic framework of the two concepts.
- Vocational Education can be meaningful only if it responds to the needs of both the organised and unorganised sectors in a holistic manner and incorporates the technologies and pedagogies already being practiced widely in the society *outside* the school through the internship mode, especially in the vast unorganised sector.

Based upon the above policy concerns, we will now proceed to propose the programmes of **(a) Work-centred Education from pre-primary stage to Class XII; and (b) Vocational Education and Training (VET) for those who are seeking dignified options for their vocations/livelihoods after either completing their school education or being 'pushed-out' or 'walking-out' before completing education.**

6. Role of Work in Curriculum

Productive work[35] is acknowledged in various policy and curricular documents as possibly the most significant form of work as a pedagogic medium. Other forms of work such as activities, experiments, surveys, field-based studies, health and sanitation projects, social action and engagement with the community, are also critical components of the curriculum, enriching the pedagogic basis of learning. Yet, none of them may be allowed to substitute the role played by productive work in intellectual, emotional (this includes value-orientation) and skill development of the child, thereby impacting on the very direction of social development. The Brahminical-cum-colonial framework has time and again allowed substitution of all the above forms of work in the school curriculum, productive work in particular, by merely book-centred *instruction*[36]. Work as the critical pedagogic medium of holistic education was thus both marginalised and trivialised. **This phenomenon is further bolstered by not providing for a rational system of assessment of the attributes that develop as a consequence of using work as medium of education. The parameters that permit such an evaluation hardly find a place in the publicly recognised system of assessment. The public examination system is thus designed *to dissuade the teacher and the school from pursuing the goals of work-centred education.***

It is proposed that *work-centred pedagogy be a central organising theme* for reconstruction of the present education system from the pre-school stage up to Class XII. Work will be interwoven in the curriculum for the purpose of,

(a) acquiring knowledge that neither alienates a child from her social ethos nor dis-empowers her from playing a proactive role in social change;

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[35]The term 'Productive Work' is preferred over other options available in policy documents. It is contended that 'Productive Work' by its very nature is simultaneously purposeful, skilled, manual and linked to the life needs and, therefore, is an adequate concept for this purpose. As a corollary, it is held that work which is neither purposeful, skilled, manual nor linked to the life needs can not be, by definition, productive. This is not just a semantic issue but reflects a perception rooted in political economy. This term, with its unambiguous implications, is expected to resist dilution, distortion and trivialisation, unlike other terms (e.g., work experience, SUPW) that tended to give ample scope for misinterpretation of work-centred education (see Section 3 and Annexure I on how various policy formulations allowed such a scope).

[36]The term 'instruction' is a colonial construct but describes rather precisely what goes on in the school at present in the name of education. It does not amount to learning or acquisition of knowledge, let alone holistic education. This paper uses the term 'instruction' strictly in its narrow meaning and takes care in not using it as a synonym of education, as has been the lose practice in educational discourse in India.

(b) building values and the necessary strength to stand by them, especially during crisis, through cooperative functioning in peer teams and relating them to community work and social action; and

(c) promoting multiple skill formation within the framework of generic competencies (see Section 6.2); these are to be related to livelihoods/ vocations emerging from the socio-economic context of the children, keeping in mind the rapid changes that the context itself is undergoing due to changes in global politics, economy, technology and culture.

As the child matures with age, the work-centred pedagogy will be pursued with increasing complexity but invariably tempered with the required flexibility. Both of these curricular dimensions viz. complexity and flexibility will be guided by the universally acknowledged principle of moving from local to global contexts. A *common core curriculum* involving work-based pedagogy initially until Class X and, within the foreseeable future, up to Class XII for all children, will be the objective. Curricular development will be aimed at developing the concept of citizenship in a democratic, secular and egalitarian society, in accordance with the broad principles enunciated in the report of the Education Commission (1964-66). A set of work-related generic competencies will be pursued at all stage of education – from pre-primary to Plus Two – and will also inform the construction of evaluation parameters and designing of the system of assessment, including the public examinations. This will provide a firm foundation for building up a relatively more evolved and intense programme of work-centred education called '*Vocationalised* Education' (to be distinguished from '*Vocational* Education') at the secondary/senior secondary stages[37].

6.1 Basic Features

Introduction of a universal programme of 'Work-centred Education' will be founded on the following guiding principles:

- Viewing productive work along with all other forms of work (for example, activities, experiments, surveys, field-based study, social action, engagement with the community etc.) in the *core curriculum* as a pedagogic medium – from the pre-school stage to the senior secondary stage for all children.
- Making participation in productive work under conditions approximating to real life situations an effective pedagogic medium for acquiring knowledge, building values, skill formation and promoting critical thinking, creativity and other *generic competencies* as proposed in Section 6.2.
- Work-centred education implies that the knowledge base, social insights and skills of the hitherto excluded children in relation to their habitat, natural resources and livelihoods can be turned into a source of their dignity and strength in the school system. At the same time, the rich experiential base of children, even if it is rooted in the objective reality of productive work, must not be trivialised by uncritical 'glorification'. Apart from the likelihood of being marked with retrogressive or unscientific streaks, the experiential base is limited by the area, period and technological milleu of its

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[37]The prevailing policy imperative (NPE-1986, Sections 5.17 and 5.23) of viewing 'Vocational Education' as a distinct stream at the secondary/ senior secondary stage, parallel to the general or academic stream, needs to be urgently reviewed. This is necessary in order to integrate 'Vocationalised Education' (i.e. work-centred education at the secondary/ senior secondary level) in the core curriculum for all students at both of these stages, thereby ending the present dichotomy between the academic and vocational streams in the school system.

origin. It is also constrained by its historical, economic and socio-cultural contexts. Yet, it is to be recognised as a meaningful and contextual entry point for organising curricular experince in the school which can be further developed through critical pedagogy (see NCERT's NCF-2005, Section 2.4.5 and other related sections in Chapter 2 on 'Learning and Knowledge'). Such a pedagogy will provide a child-friendly route to (a) acquiring disciplinary knowledge; (b) development of values primarily drawn from the Constitution and democratic traditions; (c) formation of multiple skills that are relevant to face the contemporary challenges; and, thereby, (d) facilitating social transformation. It is this educational process that calls for the application of critical pedagogy to link the experience of productive and other forms of work with global knowledge.

- Work-centred education will also address the profound problem of growing alienation of the middle-upper class children from society, its culture and their own roots – a problem also acknowledged by the Education Commission (1964-66). This alienation leads these children to lose their organic links with India's rich diversity. The consequent phenomenon of the identity-less, amorphous and 'homogenised' adolescents and youth can be powerfully addressed by engaging middle-upper class children in peer teams often lead by children from productive sections of society where the entire team learns through productive work in a cooperative mode.
- While correlation between work and subject-specific knowledge will be optimised, the emerging challenge to the value-framework of the children will invariably remain a central concern. Skill formation related to livelihoods/vocations relevant to the changing socio-economic conditions will be pursued with increasing complexity (i.e. varying from local to global perspective) but with the required flexibility, as the child matures with age.
- **The colonial concept of *centrally prescribed* textbooks will become superfluous**, though theoretical material, concept papers, selected texts and contextually prepared Teachers' Guides would be necessary for the teacher-educators, teachers and the school authorities. Instead of prescribed textbooks, each school will have a rich library (to be supplemented with IT, wherever desirable) of resource material relating to various knowledge disciplines and other education-related texts. This material will be readily accessible to children (and teachers) for consultation in order to enable them to seek answers to the questions that arise in their minds from time to time. These queries would reflect the nature and the stage of their engagement with the physical and social world around them. **The path to knowledge will thus become entirely open-ended, non-linear and contextual.**
- Evaluation parameters will be reconstructed to test the attributes that develop amongst the children as a result of engaging with the pedagogy of work-centred education. This is expected to lead to a radical departure from the prevailing *book-centred, information-based and recall-oriented* assessment system in the schools as well as in the public examinations and competitive entrance tests in higher education. Such a conceptual transformation is critically required not only for making work-centred education a reality but also for re-orienting the entire school curriculum in favour of the masses hitherto excluded from the formal school system.

- The curriculum of all Teacher Education Programmes will have to be redesigned on the principle of **cultural and epistemic transformation** of both the teacher as well as the teacher-educator. This implies that, as emphasised by the National Focus Group on 'Teacher Education for Curriculum Renewal', the teacher has to be enabled to "understand children within social, cultural and political contexts" and "view knowledge generation as a continuously evolving process of reflective learning." Further, the elitist, casteist, patriarchal and generally anti-poor orientation of the prevailing teacher education curriculum calls for questioning of its basic premises. Only then the teachers will be able to creatively respond to the increased role of the children, particularly girls, from the productive sections of society in work-centred education.

Individual schools and clusters of schools would have to be empowered in terms of providing conceptual academic, financial and administrative autonomy, essentially amounting to operational autonomy within a defined national framework.

- The school would have to be duly empowered to carve out 'work benches' (or 'work places' or 'work spots', as the case may be) in the neighbourhood where the students could go to learn through work. Such an approach has three advantages viz. (a) it will minimise capital investment (or make it unnecessary altogether) in the school; (b) the students will have access to the latest available technology and techniques at the 'work benches', rather than getting stuck with outdated technology at the school; and (c) what the children learn would be contextual and, therefore, be subjected to critical self-examination and reflection. Evaluation conducted by these 'work benches' will be duly recognised by the assessment system. For this purpose, a system of accreditation of 'work benches' would have to be evolved.
- The school system will create an appropriate space for engaging farmers, artisans (including those who have migrated to urban areas), health practitioners (including the village *dais*), persons experienced in animal husbandry, poultry, fishing, and medicinal herbs, mechanics, technicians, folk artists etc. as Resource Persons or Invited Teachers with the aim of utilising their varied expertise, skills and insights (this will require appropriate action by NCTE as well).
- The present school day and school calendar will have to be made flexible and contextual in order to accommodate work-centred curriculum. A proactive and structured role of the PRIs (or municipal bodies), VECs (or PTAs), Gram Sabhas and DIETs can not be over-emphasised in this regard.
- In stead of the present arrangement of dividing the school into fixed classes and periods, the school will need to be reorganised in terms of multi-level[38], flexible and dynamic groups of children, encouraged to follow a negotiated time-frame[39]. A group of children will be constituted on the basis of their common knowledge orientation and

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[38]This is not to be confused with the 'multi-grade teaching' promoted by the externally funded DPEP during the 1990s which was a retrogressive measure introduced to absorb the impact of Structural Adjustments under the neo-liberal policies.

[39]The term 'Negotiated Time-frame' has been used here to indicate a space for the teachers and the students to negotiate a mutually acceptable time-frame for pursuing and achieving a set of common objectives in the school. Such negotiations between teachers and students are also required for promotimg a democratic culture and an ambience of equality in school.

comparable skill levels, with a couple of them placed in the group to play a leadership role in the learning process.[40] Such a group will pursue a common learning objective (or a set of objectives) for a while as a collective, disband itself after the objective has been achieved and then regroup with other children to pursue a new objective (the model developed by DIGANTAR, Jaipur, may be studied in this respect).

- It is on this bedrock of work-centred education that 'vocationalised education' (to be distinguished from Vocational Education and Training as explained in footnote 37) will be embedded at the secondary/senior secondary stages for all children. Skill development for livelihoods/vocations in this framework will be correlated with knowledge acquisition and building of values, *rather than being viewed as an isolated objective.*
- Such a work-centred programme of education will also lay a rational basis for the students to seek a dignified option of Vocational Education and Training (VET) courses *outside* the school system with the objective of pursuing a viable vocation/ livelihood in their lives (see Section 7 for details).

6.2 Generic Competencies[41]

The notion of generic competencies will be determined by our critique of knowledge inherent in the curriculum. It obviously can not be de-linked from the issues of class, caste and patriarchal and linguistic hegemony over various forms of knowledge and their complex relationship with the forces of the global capital. In this context, there are two alternative paradigms in which the notion of 'generic competencies' can be placed. As per one paradigm, education is viewed as a process of unfolding the holistic potential of children working and learning together as *collectives*. The significance of *individual* development in this paradigm is seen necessarily as being integral, if not even subservient, to that of the *collective*. Further, it is understood that education enables children to first understand the world they live in, then question and critique it and finally *intervene collectively to re-define it* (BJVJ, 1995, p. 31). However, this transformative role of education is yet to be incorporated in the dominant Indian discourse on policies and curriculum.

In the meantime, we must find ways to move ahead with curricular reforms. It is here that the second paradigm comes in. The basic objective of education in this paradigm is to enable the *individual* students (collective interests are expected to be served only secondarily) to *adapt* themselves to the needs as determined by the socio-economic conditions, including those of the rapidly emerging globalised economy. The curriculum is thus designed to make the children *adjust* to their environment and, at the same time, *optimise* their role within the given framework. While the focus is on the individual growth, the transformative role of education is not *primarily* addressed, if at all. *What follows below places the notion of 'generic competencies' in this second paradigm* – probably less challenging than the first one but definitely more

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[40]It is here that the children from the deprived sections, particularly those from agrarian and artisan backgrounds, are likely to be in a position to provide leadership to their peers. This is because of their experience in productive work and rich knowledge of environment and natural resources. Undoubtedly, this knowledge base is to be subjected to critical scrutiny in order to ensure that retrogressive and unscientific ideas are identified and rooted out. By institutionalising such a practice, the school will begin to acknowledge the significance of knowledge and skills of the oppressed castes and classes, hitherto ignored in the education system.

[41]This Section is a modified version of the Note on 'Generic Competencies' prepared by Dr. Pratibha Jolly, Member, National Focus Group on 'Work and Education' (see Annexure V).

pragmatic under the prevailing structural conditions. The following elaboration (see Annexure V for more details) on generic competencies needs to be appreciated and utilised to reform education keeping this de-limitation in mind. Even here, the space for reform can be enlarged if curricular development is informed by the concerns and issues as highlighted in Section 4 viz. Economic Scenario and Globalisation (Section 4.1), Education and Incompetence (Section 4.2), Work and Knowledge (Section 4.3), Child Work vs. Child Labour (Section 4.4), Education and Alienation (Section 4.5), Gender Issues (Section 4.6) and Challenge of Disability (Section 4.7). This is an exercise that we must undertake in a phased manner in order to be able to take educational discourse to a higher theoretical level.

Rapid changes in the technology-based workplace necessitate lifelong learning. A person is expected to continuously adapt to new and changing situations. In a world where career paths are increasingly nonlinear and pursuit of knowledge interdisciplinary, an individual has to continuously handle, update, evaluate and apply knowledge to newer contexts. Then a society of knowledge without bounds also has to be a society of learning without bounds. While learning has to be embedded in the social context and knowledge is interdisciplinary, the higher objects of learning have to be generic and dynamically linked to the changing needs of the society.

The functional object of education is to prepare the student to be a conscious citizen, leading a productive life in the workplace. To that end, imparting an understanding of what work entails has to be an integral part of education for all. Then there is need to provide students early and frequent exposure to what work means to practitioners in the workplace in a rich variety of contexts. Given the multitude of possible vocations and professions and changes in the work techniques and demands, there is need to identify the broad common denominator in what it takes to successfully accomplish generic rather than specific tasks.

In addition to subject-related competencies, development of generic skills and competencies for work has to be an important objective of any educational programme for all students. The word "competence" is often used interchangeably with terms such as skill, capacity, capability, aptitude, proficiency, expertise, know-how, and experience. All relate to the individual and have specific and overlapping meanings. Together with skills, competence implies a set of dynamic attributes necessary for understanding and implementing a task. It has an all encompassing meaning that conveys the level of necessary and sufficient preparedness for carrying out a set of tasks reliably, accurately and responsibly in accordance with pre-defined standards or expectations in a given social context (this includes the industrial context as well).

Generic competencies relating to work-centred curriculum can broadly be considered along three dimensions:

- **Basic** competencies relate to the personal attributes necessary for undertaking any task. These include sensitivity; aesthetics; critical thinking; creativity; mathematical abilities; linguistic abilities; motivation for work; ability to understand methodology, the tools and techniques; capacity for analysis and synthesis and others.
- **Interpersonal** competencies relate to the social aspects of any task. These include attitude to work or work ethics; social skills; communication skills; capacity to understand and accommodate another's point of view; capacity to question and also dissent for the sake of one's own ideas and values; capacity

to function cooperatively, to assume different roles, to work in collaborative teams and to work in interdisciplinary contexts; entrepreneurship-cum-social accountability[42]; and others.

- **Systemic** competencies relate to the overall understanding and capacity for working in changing contexts. These include the ability to comprehend the whole system, develop a holistic perspective, alter parts and design new systems; capacity to work with transfer of learning; capacity to appreciate a paradigm change and re-define one's role; courage to take initiative and chart new paths; and others.

Competencies can be taught, learnt, internalised and enhanced through appropriate learning experiences and contexts. Problem-solving exercises, craft and design activities and projects, among other hands-on activities, provide the perfect framework and opportunity for initiating the student to the art of work, imparting skills and developing generic competencies. An understanding of what generic competencies are of value in the workplace, in the new social paradigm, allows the teacher to organise the requisite learning experiences and integrate these in the curriculum throughout the learning years. Such experiences have profound importance and need to be planned with care. Experiential learning in eclectic contexts broadens systemic understanding and consolidates skill, competence and confidence. It also provides opportunities for developing the vital skills of adapting and surviving in continuously changing environments.

As an example, courses on Craft or Design and Technology provide an excellent mechanism for developing generic competencies. These cast the student in the role of an innovator and have been used even in primary classes with great success. Relevance of the curriculum to the real world is extremely important for the students. It is not necessary to look at the high technology artifacts to value product-related work. One has only to look around to realise that every aspect of human surroundings has an element of design. Students enjoy the act of building things as also the act of breaking apart things. They enjoy working with materials, components and tools, understanding processes that underpin existing products and making things to suit their own requirements. A systematic study of design and technology can provide opportunities for learning a broad spectrum of generic skills and competences. The challenge for an educator is to temper the flurry of activities usually witnessed in students' hands-on productive tasks with the rigor of scientific method and systematic thinking; to construct learning environments where the process of learning is both, *hands-on* and *minds-on*. There is scope here to broaden the framework of education so that the support of social groups from the workplace can be enlisted.

Collaborative projects and problem-solving exercises can be interwoven with any subject-specific course and provide an opportunity for development of generic competencies, regardless of ability level or potential. However, if competence generation is the objective, choice of the problem matters. Problems have to be context-rich and reflect the know-how of every day life. Problem-solving approach to learning stimulates curiosity and gives a flavor of creative processes. It incorporates the skills of observing, designing, decision-making, brainstorming, implementing and evaluating solutions. Successful

[42]The President of India Dr. A.P.J. Abdul Kalam proposed recently that 'entrepreneurship' be given an important place in the curriculum. This objective would be best served by viewing 'entrepreneurship' in combination with 'social accountability' and integrating the twin concept pedagogically at all stages of education, rather than adding it as a separate topic in any one particular grade.

collaborative group work depends on facets of interpersonal skills, role play and team work.

Suitable pedagogic input is critical in developing competencies. The cognitive apprenticeship model of learning has been successfully used to this end. In the initial stages the teacher, like an expert craftsman, models the problem, provides coaching and scaffolding to the student who moves forward through a sequence of increasingly complex tasks. As the student learns to negotiate these tasks entirely by herself, the teacher gradually fades out and frees the student to apply the knowledge gained to newer contexts.

At the Plus Two stage, apart from productive skills of higher order, the generic competencies may focus upon building a philosophical, sociological and cultural understanding of productive work and its role in social development. This could be achieved through project work and/or field studies in one or more areas such as historical development of productive forces in society; growth of scientific ideas and their relationship with technology and social change; industrial revolution in the west and colonisation; relationship of ethnic, gender, caste and other forms of discrimination with productive tasks; impact of globalisation on the sources and diversity of livelihoods; changing patterns of vocation-specific skills and control of natural resources; designing and financing a viable economic project; and role of entrepreneurship-cum-social accountability in social development. Such projects are expected to develop a broad understanding among the students in order to enable them to explore their future trajectories with a critical mind and social concern. Focus on developing a specific skill related to a vocation/ livelihood leading to product development will also be critical at this stage, *irrespective of whether the concerned students intend to pursue the skill-specific vocation or not in their future lives.*

6.3 Typology of Work in Education

We have earlier contended that the notion of work in education emerges from its centrality in all cultures and life situations for people in all age groups. The place of work in education gains added significance as it forms the bedrock of all livelihoods, especially those that are embedded in the socio-cultural ethos of human beings. In this sense, we are attempting to present a *possible* typology of work which might help teachers, teacher educators and curriculum developers to plan the work-centred curriculum for different stages of school education. Before we do this, it is critical to make the following points:

1. The choice of work as a pedagogic medium will be *governed by the developmental stage* of the child or groups of children one is planning for. This consideration will include factors such as the psychological age of the child, her physical strength and her skill level.
2. The pedagogic planning must ensure that the chosen type of *work is undertaken, as far as possible, by a collective of children* (this may include some older or more skilled[43] children for providing the necessary leadership) in order to encourage a sense of

[43] *This is where many of the children coming from deprived sections (artisans, peasants, construction workers, mechanics, migrant families and nomads) and particularly girls among them are likely to have an edge over the rest. Placing these children among peer teams in positions of leadership will accord them and their rich experiential base the necessary dignity and visibility that has been denied for centuries. To be sure, there will be several critical areas (e.g., IT-related tasks, documentation, referencing, electrical and electronic gadgets, automobiles and other modern machinery) where the children from middle classes and the elite would have a headstart over the deprived sections and would be in a position of providing leadership, at least to begin with. It is this complementarity among diverse sources and forms of knowledge and skills that the school curriculum must emphasise. In a country like India, a curriculum acquires a truly 'national' character by doing this. Otherwise it is reduced to being 'parochial' in character by restricting itself to only certain dominant sources and forms of knowledge, as is the case at present.*

cooperation, team work and community spirit. A planned rotation of teams on the same day or on different days/weeks might be helpful.

3. We wish to emphasise that allocation of work to children must b *free of all considerations of class, caste, religion, gender or social status of the child* (see Section 3.4 to 4.7). Stereotyping in selection of work must be strictly avoided, as it violates the basic principles enshrined in the Constitution. Nor do such biases promote a democratic, egalitarian, secular and enlightened society. There are only two pedagogic situations where the teacher may seem to be acting in apparent contradiction to this rule. One, the teacher may like to take advantage of the child's experiential background in formulating her role in a work-centred team, as discussed above. Two, physical or mental disability of the child in any one particular dimension may guide the teacher in modulating or phasing productive tasks, materials or the tools in accordance with the nature/degree of disability so as to ensure inclusion of such children in the peer teams. Even here, the additional qualities (insights, skills, sensitivities) that the disabled children are known to develop gives them an edge over the rest that the teacher would have to keep in mind.
4. The *work undertaken by a child does not necessarily indicate her future vocation, profession or source of livelihood,* not even the work undertaken at secondary or senior secondary stages. Indeed, a child would have had the experience of doing several types of work and developing a range of skills and other generic competencies from pre-primary stage to Class XII.
5. Care is to be taken to ensure that the work chosen as a pedagogic medium (a) *represents as many categories as possible at each stage of education* viz. pre-primary, primary, upper primary, secondary and senior secondary; and (b) the *skill component increases in complexity as the child matures* in physical strength, age and the stage of education. A system of credit accumulation, grading and respective weightages would need to be designed for the purpose of evaluation and assessment so that the multi-category and multi-skill character of work-centred curriculum is promoted.

It is in this perspective that the following typology may be examined. This is only a *suggestive* typology and the teachers, teacher-educators and curriculum developers (and, of course, students) should feel free to evolve another typology that might be more meaningful in their specific context.

A. Integral to Daily Living

A.1 Sweeping and Scavenging; Making of Brooms, Mops and Scoops.
A.2 Health, Hygiene and Sanitation
A.3 Cooking, Nutrition and Serving
A.4 Processing of Foods, Spices, and Other Food Ingredients
A.5 Laundry and Preparation of Soaps and Detergents
A.6 Tailoring, Stitching, Embroidery and Knitting
A.7 Care During Pregnancy and Early Childhood Care
A.8 Interacting with the Disabled, Infirm and the Sick
A.9 Old Age Care
A.10 Repair and Maintenance of Household Gadgets
A.11 Preparation of Cosmetics, Aromatics and Herbal Medicines
A.12 Saving of Water, Electricity and Fuel Consumption
A.13 Sharing of Household Responsibilities
A.14 Domestic Budgeting and Planning

B. Habitat and Shelter

B.1 Nursery and Gardening (including composting)
B.2 Landscaping and Aesthetics
B.3 Making of Bricks, Cement Blocks, Tiles, Pipes etc.
B.4 Clay work
B.5 Carpentry, Furniture and Designing
B.6 Metal Work
B.7 Working with Plastics
B.8 Working with Glass
B.9 Housing (Designing and Construction)
B.10 Electrical Fittings
B.11 Plumbing and Sanitation
B.12 White-washing and Painting
B.13 Potable Water
B.14 Ground Water and Rainwater Harvesting
B.15 Drainage and Sewage
B.16 Biodegradable and Non-biodegradable Waste Management
B.17 Environment: Biodiversity, Conservation and Maintenance
B.18 Renewable Sources of Energy (e.g., solar and wind energy)
B.19 Safety: Fire, Earthquake, Cyclones, Floods and Pollution.
B.20 Making of Toys, Science Kits and Teaching Aids
B.21 Field Studies of Flora and Fauna; Developing a Herbarium
B.22 Animal Care

C. Transport

C.1 Bullock Cart: Designing, Construction and Innovation
C.2 Bicycle: Assembling, Maintenance and Repairing
C.3 Boats, Canoes and Ships: Repair, Designing and Construction
C.4 Automobile (2-wheel, 4-wheel): Repair and Maintenance
C.5 Tractors, Cranes and other Hydraulic Machines: Operation, Repair and Maintenance
C.6 Packaging and Forwarding
C.7 Mapping and designing roads, bridges, ropeways etc.

D. Agriculture, Agricultural Processing and Forestry

D.1 Farming (including organic and dryland farming)
D.2 Horticulture
D.3 Animal Husbandry (including breeding)
D.4 Fisheries and Aquaculture
D.5 Poultry
D.6 Sericulture
D.7 Dairying
D.8 Seed collection, storage and biodiversity
D.9 Fodder, Pastures and Grasslands
D.10 Plantations (Tea, Coffee, Spices etc.) and Processing of Products
D.11 Irrigation and Drought Management
D.12 Forest Nursery and Tree Plantation
D.13 Forest Conservation, Wild Life (including mapping) and Human Settlements
D.14 Timber, Other Forest Produce and Regeneration of Forests
D.15 Cultivation of Aromatic and Medicinal Plants and Processing
D.16 Food Processing, Preservation, Conversion and Packaging
D.17 Agricultural Tools and Machinery
D.18 Agricultural Engineering
D.19 Bakery
D.20 Storage, Marketing and Finance
D.21 Quarantine and Patents

E. Textiles, Leather and other Fibre-based Materials

E.1 Soft Toys

E.2 Cotton, Wool and Synthetic Fibre: Spinning, Weaving, Knitting, Processing, Dyeing and Apparel Making

E.3 Leather: Curing, Processing, Dyeing and Products

E.4 Jute, Coir, Cane etc.: Curing, Processing, Dyeing and Products.

E.5 Designing and Marketing

F. Tools and Machines

F.1 Hand Tools

F.2 Hydraulic Tools

F.3 Electrical Gadgets and Tools

F.4 Electric Motors

F.5 Internal Combustion Engines

F.6 Levers, Gears, Brakes, Cams and other Basic Components of Machines

F.7 Casting, Welding, Turning, Fitting etc.

F.8 Electricity: Production, Supply and Distribution

F.9 Radio and Public Address Systems

F.10 Domestic and Industrial Safety Equipment

F.11 Electronics, Computerisation and Control Systems

F.12 Robotics

G. Services

G.1 Printing on Various Materials

G.2 Budgeting, Accounting and Evaluation of Assets

G.3 Maps, Surveys and Project Planning

G.4 House Safety and Maintenance

G.5 Testing of Water, Air and Soil

G.6 Pathological Testing and other Para-medical Services.

G.7 Transcription and Documentation

G.8 Translation and Interpretation:

(a) From one Indian Language to another;

(b) From English to an Indian Language and *vice versa*; and

(c) From Braille/Sign Language to an Indian Language/English or *vice versa*.

G.9 Preservation and Maintenance of Old Records and Museum Specimens.

G.10 Computers: Software and Hardware

G.11 Information and Communication Technology

G.12 Banking, Insurance and Finance

G.13 Creating and Maintaining Libraries, Documaintation Centres, and Reading Rooms.

H. Art, Music, Theatre

H.1 Making of Musical Instruments

H.2 Making of Heritage Crafts (including puppets)

H.3 Pottery, Murals, Sculpturing and Graphics

H.4 Stagecraft

H.5 Jewelry Making, Stone Polishing

H.6 Event Management

I. Health, Sports and Physical Education

I.1 Public Health Services (including epidemic control)

I.2 Mid-wifery

I.3 Knowing your Body, Sexuality and Fertility Awareness

I.4 Occupational Hazards and Health Problems

I.5 Designing and Making of Health and Sports Equipment

I.6 First Aid and Nursing

I.7 Medical Technology

J. Community Work and Social Action

J.1 Local History Studies

J.2 Field Study of Under-nutrition/Malnutrition and its Causes.

J.3 Local Studies of (a) Occupations; (b) Technologies and Skills; (c) Work Force; (d) Natural Resources; (e) Habitats; (f) Modes of transport; (g) Sources of water and energy; (h) Bio-diversity; Creating Biodiversity Register; (i) Markets; and (j) Official Development Agencies and their programmes.

J.4 Interaction and Study of Panchayats, Primary Health Centres, Block/District Development Office, Police Stations, Post Offices, Cooperatives, Banks, Courts, *Mandis*, District Magistrate's and Revenue Offices (or Municipal Offices) and digital data collection at Block and District levels.

J.5 Field Studies of (a) Social Stratification and Power Structures; (b) Gender Inequity and Violence Against Women; (c) Gender Differences Relating to Work; (d) Adult Perceptions of Childhood; (e) Child's relationship with work; (f) Status of Child Rights; (g) Status of the Disabled; and (h) Diversity of Languages, Religions, Castes and Socio-Cultural Backgrounds.

J.6 Field Studies of local Balwadis/ICDS Centres, educational programmes and schemes, educational status, types of school managements and fee structures; social and gender disparities in and through education, teaching-learning processes, quality of community participation in schools, implementation of laws relating to child rights and educational rights, contribution of education to social development and the changing trends in the education system.

J.7 Proactive involvement in (a) Vaccination Campaigns; (b) Health Check-ups; (c) Epidemic Control; (d) Maintenance of Land Records; (e) Right to Information Campaign; (f) Issues relating to Women's and other Socio-Cultural Rights; (g) Legal Literacy and Aid Programmes; (h) Child Rights and Right to Education Programmes; (i) Local elections; (j) Development Programmes (including Employment Guarantee Scheme); and (k) Decennial Census.

J.8 Organising (a) science and technology-based services for the community and/or the locality; (b) Support for the Balwadis/ICDS; (c) Interventions for Universalisation of Elementary Education; (d) Support for the disabled, including learning Braille/sign language; (e) Support for the old persons and the sick; and (f) Any other similar social action programmes.

J.9 Compilation of local folk songs, folk tales, riddles and toys.

J.10 Studying disasters, riots, incidents of violence (particularly against women, children and *dalits*), accidents and other disturbances and providing relief therein.

6.4 Work as a Pedagogic Medium of Knowledge, Values and skills: Learning from Field Experiences

The pedagogic potential of productive work as a medium of education is being presented here through documentation of a selection of experiences of a group of schools and other educational institutions whose reports were received by the National Focus Group on 'Work and Education' during its deliberations (see pp. 36 to 39).

A Pedagogic Glimpse of Four Nai Talim Institutions of Gujarat[44]

Swaraj Ashram, Vedchhi, Distt. Surat

Balwadi

A *balmandir* was started under a tree for children of the age-group 2 ½ yrs to 5 yrs. Activities like washing of clothes, cutting of nails, bathing at the well, combing hair, playing games, gardening etc. were being done in the *balmandir*. Jugatrambhai was insistent not on '*ramakada*' (toys) but on '*Kamakada*' (tools), for children to play. The pedagogy should be adapted taking into consideration the life-useful tasks for the purpose of value-building. Tasks such as cleaning with broom, fetching water in the pot, gardening, digging up with a small hoe, weeding out with sickle etc. were given importance. Activities like making clay-toys, drawing of pictures etc. were also arranged.

Although activities such as preparing *chotras* and plastering them, fetching water from the well, watering the plants, bringing clay and preparing toys are laborious, children do them enthusiastically. Indoor activities like singing songs, telling stories, acting in children's plays etc. are also encouraged.

Gramshala (Primary Section)

The Gramshala was conceived as a model school of *Nai Talim* with life-based activities and innovative experiments. Educational work started not in four walls of the classroom, but in farms, in fields and meadows, in jungles and in tours-excursions, with correlation of the craft and subjects. Education was not bookish but of experience and commitment; not sitting idly but education with productive labour.

The first importance was given to *Vastra Udyog*. Spinning-work started by removing seeds from cotton, carding cotton, making slivers, etc.; spinning and weaving on loom upto Std. IV. Children of Std. V to VII were required to spin and weave on big loom (*kanthla* loom). Alongwith it, agriculture as a craft was also taught. Children grew fenugreek, coriander seeds and vegetables. They would fetch a bucket of water and irrigate. Whenever there was crop, they would take it home. If there was surplus, they would sell it.

There were classes, some times under a tree, some times above the tree. Education was not by rote but through stories, songs, talking of Gandhiji, talking of games, drawing pictures, Tagore's stories, etc. The basis of this education methodology was 'free *vihar*'.

Engagement with society came alive. Farmers would invite the children to help in paddy sowing. The children would reach there in no time. The teachers would also join them. The work would be finished within hours. The farmers would be pleased and pay willingly for the labour.

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[44] *Gujarat Nai Talim Sangh (2000-2002), Social Transformation through Nai Talim: Success Story Series, Gujarat Nai Talim Sangh, Gujarat Vidyapeeth, Amdavad, Gujarat, Vol. 2, pp. 15-16 and 30-32; Vol.16, pp. 6-10; Vol. 22, pp. 40-44; and Vol. 25, pp. 27-28.*

The money earned through labour-production would be used by the students-panchayat and teachers' association for school development or for the benefit of the students.

The students would be helpful at the time of village-calamities by doing labour-*yagnas* (*shram-yagnas*). At the time of national calamities, however, they would arrange labour-yagna programme where the amount collected would be sent to the funds collected for mitigating the impact of the calamities. If there were calamities like flood or famine, fire or earthquake, such labour-camps were then organised unfailingly.

The *mantrimandal* is formed for giving a sense of the democratic method. *Mantris* are made according to the school-activities.

Gramdakshinamurti, ambla, Distt. Bhavnagar

The school engaged the children into various productive activities and gave them education of life through productive manual work. When the school required land for farming, the village people gave them a part of the crematorium which was turned into a fertile plot within one year only. It was realised that children possessed unlimited energies which should be tapped. The teachers decided to nurture their talents by organising educational fairs each year relating to different States and correlating them with lessons of history and geography. In this project, activity was more important than the result. During the process, the practical project work imparted training for self-development and cultivated values which gradually became part of the personality and the collective spirit of the school. The project involved carpentry, black smithy, leather work, weaving, dress-making, painting and many other such practical skills. The life of the people of the state selected for the annual fair, its history, dresses, geography, civilisation, architecture, festivals, songs and dances were projected in vivid and varied manners keeping the entire campus humming with hectic activities all the while. This made it necessary for the students to refer to resource material, consult and draw maps, document and collect cultural material, conduct surveys, land shaping, designing and planning. Of course, writing one's diary and preparing reports was integral to the project. We believe that fairs, tours, festivals, theatre and songs are better means of education than class-room teaching. Civics was learnt through community living and history and geography were recreated in the form of monuments set-up for the fair.

Grambharti, Amrapur, Distt. Gandhinagar

At the time of the craft of agriculture, all the students and teachers are seen engrossed in the various farm activities. The students get the practical experience of the plots of grain crops, oil seeds, vegetables, fodder, projects, exhibitions, demonstrations, making observations, drawing conclusions and arriving at results. They perform tasks like sowing the seeds, erecting the plants, weeding, digging up and harvesting. They also do the job of bringing down the vegetables, weighing, selling and keeping accounts. They themselves get acquainted with the type of the land, its topography, land survey, land leveling, pH

measurements and analysis of water. They learn about grafting, pruning, mulching, covering, preparing seedlings and nursery and doing transplantation. Daily work is recorded in their diary. They collect things and prepare a leaf-book, a root-book, a flower-book, a book of wages for weeding. They keep samples of organic fertiliser, chemical fertiliser and seeds. According to their level of class and curriculum, the students undergo the teaching-learning processes, while also getting good production.

The students get the opportunity of direct experience and observation of plotting of various wheat varieties and hybrid cotton and castor; using cow dung and compost for organic farming, instead of chemical fertilisers; sprinkling cow's urine or *neem* leaves' extract or use of the leaves of Naffatia, instead of harmful chemical pesticides for prevention of diseases; using oil cake of *neem* seeds or castor seeds; and using ash-buttermilk or the milk flour. Opportunity is sought to discuss problems with the experts of agricultural universities and dairies. The *gaushala* of the institution fulfills all the needs of practical work of the animal husbandry curriculum. Demonstrations are organized for castration of the calf, removing the horns, artificial insemination and postmortem. The institution is self-reliant upto 50 per cent of its needs in vegetables, 70 per cent in grain and 100 per cent in milk.

Self-reliance is necessary for autonomy. Except for cooking, all other tasks are undertaken by the students themselves. For this purpose, the entire student body is divided into task-oriented teams and assigned different responsibilities e.g. cleanliness, vegetables, milk, store, grinding, kitchen, serving food and waste management. A student *mantrimandal* (cabinet) comprising *mantris* for various departments is also appointed with the aim of developing a sense of democratic functioning and accountability.

Sardar Kanya Vidyalaya, Bardoli, District Surat

Agricultural work hours in the Kanya Vidyalaya are required to change with the change in seasons. In hot summer, agricultural work can be done in the mornings. During monsoons, when it is raining, paddy sowing requires work to be done for hours together. In cold winter, agricultural work can be in the evenings.

There should be change in the time-table as per the seasons. If there is much weeding work to be done, the students can go to work in the fields in the mornings or in the late afternoons when the sun's heat is less severe. Teachers also would accompany. This is what distinguishes *Nai Talim* – friendship with nature and a scientific approach to life. A kind of *Jeevan shikshan*, i.e. giving training to body and mind through nature and, therefore, cultivating an *udyog* is the distinctive feature of *Nai Talim*.

The disgust for labour vanishes due to *udyog*. On the contrary, new outlook develops. As the student works, she does not become tired of being engaged only in intellectual exercise. Intellectual exercise can lead to depression in a student, but *Nai Talim* education along with *udyog* develops the student holistically. Moreover, craft gives pleasure of creation. The student experiences reality. Merely intellectual/academic education makes the person unstable. Education with craft teaches what reality is.

Experience of UTTARAKHAND SEWA NIDHI, Almora, Uttaranchal, in building an environment education programme at upper primary level that engages children in productive skilled work (for example, making compost or housing), conducting surveys and field studies, documenting local history and biodiversity and making scientific studies of the quality of soil, air and water. The programme is now institutionalised in Uttaranchal Government's upper primary school system under SUPW.

Artisans and Farmers as "Honorable Teachers"

Karad is a municipal town in Satara District (Maharashtra) where 21 schools are run by the municipality and 10 school by private bodies. Only slum dwellers, farm labourers and other poor people send their children to municipal schools. In 1998, we identified Municipal School Nos. 7 and 12 for our intervention. A joint meeting of the teachers and parents was organised in order to sensitise them about relevant education and ways of improving the quality of learning. A programme of bringing real life experiences into the curriculum was discussed. Basically, we appealed to the parents to participate in teaching at the school. A carpenter called Seetaram was the first one to come forward. He came to the school with his tool box and some wooden blocks. The school hall was packed. The Head Master introduced Seetaram as an 'Honorable Technical Teacher' and presented him with a bouquet of flowers. No artisan or skilled worker had been felicitated in such manner by the school ever before. Seetaram started introducing his tools one by one with their names and elaborating upon their functions. He took his big compass and meticulously drew a circle on the blackboard, followed by a triangle and a rectangle. Each figure was evidence of his sense of geometry. Like an experienced teacher, he then encouraged the children to use his tools to draw the figures themselves. He went on to demonstrate how to cut and join pieces of wood in various shapes and sizes, explaining the attributes of each joint. The children loved the whole thing and participated in every act he demonstrated. The teachers were eager to handle the tools themselves. Gone was the distance that separated the educated teachers from the non-literate Seetaram. After the session was over, a rapid oral test was conducted. To our surprise, every child could explain the difference between a square and a rectangle, identifying and drawing various geometrical figures. Almost 90 per cent of the children responded correctly. Normally speaking, merely 2-3 per cent children would respond after a geometry lesson and most of them would manage to only recall the sentences as dictated by the teachers. Nor would the children be able to translate the teachers' instructions into action. But in Seetaram's class, it had all changed.

This experience broke the ice. One by one, a black smith, a tailor, a painter and a bicycle repairer visited the two schools and taught the children many real life-based things. Along with simple mathematics (including measurements), some principles of physics and chemistry, drawing and painting were part of the learning that took place. The impact of this intervention was two-fold. One, the slum children started addressing the local artisans as 'guruji', thereby according them a higher status than before. Two, the artisans started taking interest in children's education; they would inquire about their attending classes and about the progress of their studies and so on. The parents too developed a sense of affinity for the school. Education suddenly became a live issue in the slums!

People's Knowledge and a School at the Hill Top

Walmikinagar in Patan Taluka, Distt. Satara (Maharashtra) is a cluster of 10-12 hamlets at the top of the plateau in remote Sahyadri Hills. In 1997, we planned to establish a school from Class V to X**.** The people from the surrounding villages viz. Udhawane, Karale, Tamine, Paneri, Ruvale and others organised a meeting at a hill top. The women passed a resolution to start a school with people's support. The local farmers and shepherds (including women) became its 'Honorable Teachers'. As a non-literate farmer entered the school the first time, everyone mocked at him: "What can this person teach us when he does not know how to write or read even his own name?" Later, he was introduced as a person who can draw parallel lines along the length of a one hectare plot with the help of his bullocks. The farmer began by talking about the bullock cart parts and their functions and then moved on to seasons, vegetation and soils. He taught 150 new words regarding farming and bullock cart and referred to 14 principles of physics. Each principle was accompanied by a practical demonstration. At the end of the session, the teachers agreed that now they understood real physics.

Another 'Honorable Teacher' – a shepherd – asked the children to accompany him to the jungle. He started showing and explaining the names, characters and uses of various plants. Soon every child in the school was able to identify more than 100 plant species. Next year when a tour of the college students of the Botany Department visited Walmikinagar, the school children could guide them about the local flora and the medicinal uses of the plants. These children are now preparing Biodiversity Register with the help of the local non-literate 'Honorable Teachers'.

– Dr. Rajendra Kumbhar
M.N. Institute for Non-Formal Education
Karad, Distt. Satara, Maharashtra,
(as part of the Lokshala process of Bharat Jan Vigyan Jatha)

Experience of SUMAVANAM, a village school of Distt. Madanapalli, Andhra Pradesh, built up on David Horsbrough's pedagogic principles of work-centred education wherein the students and teachers undertook the entire educational programme as a community.

Experience of the Narmada Bachao Andolan in their JEEVANSHALAS in Narmada Valley in Maharashtra, Madhya Pradesh, and Gujarat in undertaking residential programme of holistic education where the children are engaged in all aspects of rural life and learn while undertaking work in agriculture, forestry and water conservation and also participating in social movements.

Of Goat Farm, Poultry, Plant Nursery and Printing Press

(Full text in Annexure IX)

Kamala Nimbkar Balbhavan, a private Marathi-medium school in western Maharashtra had observed that Work Experience, as it is conceived in the curriculum today, ceases to interest older - eighth standard - students. Actually the students are ready for real work, both physically and mentally. So we thought, "We should give them a glimpse of real work."

Six years back, we contacted a cooperative poultry farm, a goat farm and a plant nursery. The managers or owners of these places agreed to have our students work for them. The class was then divided into three groups of roughly ten students each. The goat farm is about six kilometers from the town and the poultry farm about ten. The plant nursery is close by.

For the last six years, our eighth standard students have been going to these work places for their work experience. They spend a whole week, from Monday to Friday, working from 10 a.m. to 5 p.m. Every day the group of 10-12 students reports to work around 10 O'clock. They spend the whole day working with the workers. At the goat farm they sweep the goat pens, chop fodder and feed the goats, administer medicines to the goats and kids and help in delivering a goat. In the poultry they collect eggs, feed the chickens, clean the chook-pens and help vaccinate or cut the beaks of the chickens. In the nursery they learn to change soil from pots, prune the plants and prepare seedbeds. The afternoons are generally spent in academic matters like collecting information by direct questioning, reading pamphlets or viewing video films available at the farms.

We have found that the students take pains over collecting information about the breeds, diseases, vaccination and care of the animals or birds. The groups come back to school on Saturday and have long discussions. Then they write up the information collected, along with pictures or photographs in

the form of a report. The English teacher also has students talk and write about their experience in English.

The aims of starting this work experience were several-fold:

1. To give the students a glimpse of the real world of work.
2. To give them an opportunity to learn from society.
3. To learn to solve problems and deal with unexpected situations.
4. To talk to and get to know people from different walks of life.
5. To work manually and take pride in it. (One group at the poultry bagged a party for collecting the highest number of eggs without breaking.)
6. To have a change of scene from the routine at school and get new ideas.

We certainly do not claim that this short exposure to a goat farm enables the students to know a lot about goat keeping but it definitely achieves all the above aims. The one week experience gives the students a lot to think and write about. Many students visit their work places again on weekends or during the holiday.

The success of this work experience led us to another experiment— the printing unit. Last year, we started a class once a week for anyone who was interested. The students are taught the basics of printing and binding and generally help keep the machine clean and the room tidy. In the second term, the students do a project in which they are supposed to get an outside job order. They make an estimate, do the DTP work on the computer, go to the paper merchant and select paper, then make a master and do the printing. Finally, they do the binding and deliver the job. They have to do this job in the group with the help of their teacher. This is real work.

– Dr. Manjiri Nimbkar
Pragat Shikshan Sanstha
Phaltan, District Satara, Maharashtra

Experience of KISHORE BHARATI, Vill. Palia Piparia, Bankhedi, Distt. Hoshangabad, Madhya Pradesh, during 1970s of a full-fledged 4-year programme of a group of children acquiring subject-related knowledge, building social values and commitment and devoloping generic competencies through participation in farming, animal husbandry and carpentry (designing, production, processing of produce and marketing) as a community was presented to the National Focus Group along with curricular and pedagogic details. This narrative focussed attention on how to use productive work as a pedagogic medium for learning mathematics, science and social sciences apart from becoming proficient in languages.

6.5 Community Work and Social Engagemenst as Curricular Components: Learning from Field Experiences

The pedagogic potential of community work and social engagement as a medium of education is being presented in this section through the documentation of a couple of experiences (see pp. 44-45 for ADHARSHILA School, Distt. Badwani, M.P. and p. 46 for VIGYAN ASHRAM, Distt. Pune, Maharashtra). These were presented during the deliberations of the National Focus Group on 'Work and Education'.

7. Vocational Education and Training: A New Perspective

As noted earlier in Section 5 on Basic Policy-Level Concern, Vocational Education (VE) is provided at present only at the Plus Two stage and, even here, it is restricted to a distinct stream that is parallel to the academic stream. In contrast to the NPE 1986 goal of covering 25 per cent of the Plus Two enrolment in the vocational stream by the year 2000, less then 5 per cent of the students have felt inclined to choose this option so far. The programme has been debilitated by a range of conceptual, managerial and resource constraints for more than 25 years. Apart from being viewed as an inferior stream, it suffers from poor infrastructure, obsolete equipment, untrained or under-qualified teachers (often on a part-time basis), outdated and inflexible courses, lack of vertical or lateral mobility, absence of linkage with the 'world of work' lack of a credible evaluation, accreditation and apprenticeship system, and , finally, low employability (Report of the Working Group for the Revision of the Centrally Sponsored Scheme of Vocationalisation of Secondary Education, NCERT, 1998). Clearly, the gigantic and urgent task of building an effective and dynamic programme of vocational education is long overdue. Institutionalisation of work-centred education as an integral part of the school curriculum from the pre-primary to the Plus Two stage (see Section 6) is expected to lay the necessary foundation for reconceptualising and restructurning vocational education to meet the new challenges facing the country. It is proposed, therefore, that we make a redical departure from NPE-1986 with respect to VE. Instead of being restricted to a distinct parallel stream at the Plus Two stage, Vocational Education and Training (VET) should be conceived as a *major national programme in the mission mode.*[45] The programme will have to be structurally and administratively placed *outside* the school system[46] both

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[45] A cautionary note regarding the 'mission mode' is in order here. The mission mode for VET is expected to accord the necessary political, financial and administrative priority as well as provide decentralised and flexible structural, accreditation and monitoring arrangements required for its efficient implementation within a specified time frame. However, the experience with some of the previous missions during 1980s calls for caution. After the initial enthusiasm and commitment reflected in governmental decision making and budget allocations, there is a rapid decline over the years. The high expectations of the mission mode lead to the tendency amongst the authorities to fudge data and over-report success stories. In the process, feedback from the field, introspection and mid-course corrections based upon critical review are either under-valued or avoided altogether. But worse is the lack of appropriate provision in the Five-Year Plans that follow the so-called 'end of the Mission', resulting in the programme being ignored by the Centre as well as the States/UTs. Placing VET in mission mode will be ill-advised if this is going to be its fate.

[46] This should in no way be construed to imply that the VET programme can not utilize the infrastructural facilities of the school system. As is well known, the school buildings and campus are utilized at present only for a relatively small part of the day. It would be in national interest to create all the necessary conditions such that the VET programme can fully utilize the vast infrastructure of the school system, including that of the private schools. It would be unwise to insist upon creating an entirely separate infrastructure when that of the school system remains far under-utilised. This will also bring schools closer to the community. A noteworthy experiment, called Makkal Palli Iyakkam, has been initiated by the Tamil Nadu Science Forum in hundreds of government schools with the support of the state government with partly the purpose of optimal utilization of the school infrastructure for the community (Annexure XII).

ADHARSHILA: PEDAGOGY OF SOCIAL ENGAGEMENT

(Full text in Annexure X)

The children of the ADHARSHILA SCHOOL at Village Saakad, near Sendhwa, Distt. Badwani, Madhya Pradesh, learn from being actively engaged in community life (cooking, cleaning, campus maintenance etc.) at the school and, at the same time, interacting with the village people. The children prepared a 'Book of Famine' (*Akaal ki Kitaab*) named 'Rookhi-Sookhi' (Annexure *X*) in the year of famine in the area by interviewing village elders and recording the local history of famine. This enabled the children to bring out the local scientific knowledge relating to crops, water sources, flora and fauna and environment. In the process, the following questions/issues were raised:

- Which year did the famine occur?
- Why did the famine occur?
- How did people survive during famine?
- Where did the water come from?
- What happened to the animals and birds during famine?
- How to survive the famine?
- Who benefited from the famine?
- Government Aid
- Plundering (Looting) During Famine
- Folk Tales of the Famine
- The Last Story

The people's perceptions regarding the causes of famine, food and water scarcity and survival strategies practiced by the people were carefully documented. This included the range of crops that survive during famines, number of times they need to be irrigated, time taken for these to ripe and availability of their seeds (see Table, Annexure *X*) — a down-to-earth ethnographic study of biodiversity!

The children also understood how the traders and some rulers hoarded grain during famine and thus exploited the *adivasis* and how the people waged successful struggles against exploitation.

Look at some selections from the 'Book of Famine' (*Akaal ki Kitaab*):

"Rama Bhai of Chaatli informs that once there was an *Undar Kaal* (famine caused by rats). That year the rats multiplied manifold, destroyed the crops and ate the grain too. This is why it is called *Undar Kaal*. Some people say that during this famine people ate the rat dung after washing and grinding it.

Likewise, one year, locusts attacked and destroyed crops causing famine. It is called *Teed Kaal* (famine caused by locusts) when people took *tagaari* (a large iron pan) to the fields and beat it to keep the locusts away."

"People ate the crushed bark of trees such as *gular*, *pipar*, *palaash*, *saalaai*, *semal*, *sagwan*, *dhaavde*, *moyna*, *mahua* and mango. After a few days, even the bark was not available. According to Harchand Baba of the Chaatli village, even the roots of *sagwan* (teak) were eaten by the people. . . . . Dead animals and roasted worms were the food which the people initially declined to consume but had to eat eventually. . . . . In some villages, people drank the urine of goats and monkeys in order to quench their thirst, apart from drinking the muddy water collected in the ditches of rivulets."

"The birds could not find grains, worms and water and died. The birds would sit and peck on the backs of oxen and kill them."

"All kinds of old seeds should be preserved. One method of surviving the famine is to grow more than one crop in the fields. Soybean should be avoided. It is used to feed pigs in foreign countries. You want to grow crops for pigs or for your children! This should be given thought."

"The rainwater should be preserved. A blockage (*pala*) made of large boulders should be constructed on the mountains to hold water. . . . . and the trees must be protected in the hills. . . . . Water would be checked due the blockages and trees and would seep into the ground. This in turn would increase water in springs and wells."

"The *banias* (traders) benefited during the famine. They hoarded the grains and raised the prices. They did not provide grains even when the *adivasis* (tribals) were dying. Those people who traded in animal skin must have also benefited by the famine."

"People made *chapattis* secretly to avoid the hungry ones who may come at the very sight of smoke from the stove."

"Once the Rain God decided that it must not rain on earth for nine years. It happened so. There was a farmer who would go to his field year after year and till the land. . . . . One day when he was tilling the land, the *Pani Dev* (Rain God) approached him and inquired why is he tilling the land. "Why are you wasting your energy as it is not going to rain for many years? . . . . . ", the *Pani Dev* observed. The farmer answered: "If I stop tilling I might forget how to even plow. My farming implements too would become useless due to disuse. My oxen would also not remain worthy of farm work. Some day it will certainly rain. How would I then do my job? Therefore, whether it rains or not, I would go on tilling. Listening to the farmer's reasoning, the *Pani Dev* was lost in his thoughts. He said to himself: "If this farmer can forget how to do farming, I too might forget how to rain. It is likely that I might forget how to make lightening and thundering. What would happen then?" Having reasoned like this, the *Pani Dev* started to rain at once."

Vigyan Ashram: Linking Work With Development

Vigyan Ashram at Pabal, Distt. Pune (Maharashtra) is an outstanding example of the significant difference it makes to introduce productive work in the school curriculum. An intervention called 'Introduction to Basic Technology' (IBT) has been conceived as a pre-vocational programme at the high school level. The IBT course introduced in several rural schools is recognised by both the Maharashtra State Board of Examination and NIOS. It engages students in any one of the following areas: Engineering, Energy-Environment, Agriculture-Animal Husbandry and Home, and Health.

Although IBT is not designed as a work-centred programme being proposed here, it has established the following:

- The students can play an effective technical role in several rural development tasks such as Workshed Development, sanitation, maintenance of public property (for example hand pump, school buildings, street lights etc.), pest control and vaccination.
- It has demolished the myth that introduction of work in the curriculum will increase the burden on students and their performance in the Class X examination will be adversely affected. On the contrary, a study undertaken in three schools revealed that the percentage of failure in the SSC examination was less among the students who participated in the IBT course. Work education not only gave them new skills and skill-related knowledge but enabled them to comprehend the general subjects better.
- The students can successfully perform real life-based tasks which will be valuable to the community. The experience shows that the school is able to get such work from the community which is willing to pay for this service. The technical tasks performed by the students on payment included making school benches; fabricating window grills and doors for the school buildings; undertaking domestic electrical wiring; servicing auto rickshaws; constructing steel bullock carts and selling these against bank loans; testing soil resistivity; repairing household electrical appliances; making *masalas* and *papads*; providing technical support to farming and animal husbandry; setting up poultry; and doing pathological testing. In the year 1999-2000, the total cost of the services provided by 20 schools was about Rs. 10.6 lacs. All this could be achieved while the students continued to study the regular curriculum and do well in the SSC examinations too.
- Parents have reported in feedback meetings that their children were doing a variety of useful tasks both at home and farms.
- Girls can do the tasks that were traditionally considered to be only in the male domain. For instance, some girls at one of the schools built a welding transformer and undertook welding using their self-built machine.

(Based upon the report sent by Dr. Yogesh Kulkarni, Director, Vigyan Ashram.)

by (a) establishing VET centres/institutions separately and (b) also collaborating with ITIs, Polytechnics, Community Polytechnics, Technical Schools, Krishi Vigyan Kendras, creative art and music schools, Primary Health Centres, Block-level and District-level Industries and Rural Development Programmes, Engineering and Medical Colleges, Agricultural and other Universities, S&T laboratories, various cooperatives (based on milk, sugar, cotton, oilseeds, handicrafts, forest produce, irrigation, construction etc.) and of course industry (including cottage and small-scale).

The precise collaborative linkages between VET and these institutions need to be explosed and clearly spelt out.

A phased plan of shifting and adjusting the resources already invested in about 6,000 senior secondary schools would have to be dovetailed in the new VET programme.[47]

The vocational education teachers engaged in these schools at present should have the option of either being absorbed in the work-centred education programme of the same school or join a new VET centre/institution in the same region. VET in this new perspective will be built up on the *bedrock of 10-12 years of work-centred education in the school system*, unlike the prevailing notion of VE 'hanging' in vacuum (the 1986 policy in this respect must be reviewed and modified). VET needs to be designed for all those children who have, for one reason or the other, chosen to 'walk-out' (*not* 'drop-out' as the government claims) of the schools and wish to either acquire additional skills and/or seek livelihoods through vocations as a *preferred dignified option*. This should replace the present notion of VE as a terminal stage or a 'last resort' option. In this context, the critical role that career psychology-cum-career counseling can play as a developmental tool in enabling the children to systematically move towards their preferred vocations and/or livelihoods and also in curricular planning needs to be explored and institutionalized urgently (Arulmani, 2005). The proposed VET programme will offer the following:

- Flexible and modular certificate or diploma courses of varying durations (including short-duration) in livelihoods and/or vocations carved out of the contextual socio-economic scenario; decentralised planning at the level of individual VET centres will keep in mind the ongoing rapid changes in technology and patterns of production and services along with the consequent diminishing of access to natural resources and livelihoods for the vast majority of the people.
- These courses will provide for multiple entry and exit points with in-built credit accumulation facility and will have adequate academic component (or a provision for bridge courses or both) to facilitate vertical and lateral linkages into the academic, vocational and technical programmes.
- The VET centres will be planned and designed with increasing infrastructural facilities, quality of faculty and curricular complexity as well as flexibility all the way from the level of village clusters to the Block and District levels, and also in urban areas, in order to make vocational education and training accessible to all those who wish to pursue this option.
- Curricular development of all VET courses must necessarily be also informed by the concerns and issues as highlighted in Section 4 viz. Economic

[47] *The funding for the Vocational Education programme under the Centrally Sponsored Scheme has already been varied and uncertain during the current Five-Year Plan.*

Scenario and Globalisation (Section 4.1), Education and Incompetence (Section 4.2), Work and Knowledge (Section 4.3), Child Work vs. Child Labour (Section 4.4), Education and Alienation (Section 4.5), Gender Issues (Section 4.6) and Challenge of Disability (Section 4.7).

- The Centre-In-charges or Principals of VET institutions will be given adequate resources, both infrastructural and academic, by the State and be further authorised in order to enable them to carve out 'work benches' (or appropriately 'work places'/ 'work spots') in the neighbourhood out of the agricultural and forest-based activities, production and technical centres and various programmes utilising the natural resources and human skills of the area. The feasibility of the concept of 'work benches', as recommended by the NPE Review Committee (GoI, 1990), is critically dependent on a policy framework that gives scope to the VET institution to keep in mind the requirement of each course in the context of both the local constraints as well as the untapped potentialities. For this purpose, it should be made obligatory for the private and public sector industries and other such institutional structures to provide 'work benches', 'work places' or 'work spots' with adequate training support, at the request of the local VET institutions (or the school in the case of work-centred education).
- Curricular planning for various courses must provide for maximum amount of initiative, flexibility and creativity at the level of a VET center or a cluster of such centers in a given region. There is an urgent need to evolve new structures and processes at the local or regional level to meaningfully engage academicians, teachers, practitioners of various vocations, potential employers and students themselves in developing courses.
- The success of the system will critically depend upon the relevance and quality of skills imparted and the related cognitive-cum-affective preparation undertaken, while keeping in mind the socio-economic and cultural background of the concerned communities as well as the availability of natural resources/raw materials/level of artisanship/ entrepreneur orientation at the local or regional level.
- Until 2010 (the target year of Sarva Shiksha Abhiyan), the eligibility condition for admission to VET courses will be relaxed, wherever appropriate, to include a Class V certificate. After 2010, however, the eligibility requirement will be generally raised to Class VIII certificate (or Class X certificate, if justified by the requirements of a particular course). The eligibility requirement will be further raised generally to the Class X certificate when the target year of universal secondary education is reached. In no case, however, *a child below 16 years of age* will be eligible for admission in a VET programme so that a child is enabled to join the 'world of work' generally by the time she reaches the age of 18 years – the age until when a person is considered as being a child as per the UN Convention of the Right of the Child (and also some of the Indian Acts).
- The VET centres will also act as Skill and Hobby Centres (as recommended by Punjab Government's Amrik Singh Committee, 1999) for all children at all stages of education (including primary schools), provided they access these *before or after* school hours out of their own interest. These centres will also be available for the schools to negotiate an arrangement to facilitate a programme of skill formation among their students as part of the core curriculum of work-centred education even *within* the school hours.

- An appropriate structural space and a welcoming ambience will have to be created in the VET centres for engaging farmers, persons experienced in animal husbandry, artisans (for example, weavers, masons, carpenters, ironsmiths, bamboo workers and potters), mechanics, technicians, plumbers and electricians, musicians, artists and other local service providers or producers as Resource Persons or invited faculty.
- Standardisation, accreditation and equivalence will not be used as tools for rejecting/disqualifying the VET centres, especially those of the backward regions of the country. Yet, a creative, just and decentralised mechanism will have to be developed to accredit/certify the quality of various institutions and their courses as part of an Accreditation and Equivalence Programme. This programme will also duly recognise 'work benches'/'work places'/'work spots' for the purpose of evaluating and certifying students. The purpose of such an exercise will be to both provide for vertical (and wherever necessary, lateral too) mobility and build public pressure for quality improvement to be achieved within a negotiated time-frame.[48]
- Legislation(s) will be enacted and appropriate structures will have to be created at appropriate levels for the purpose of,
  - constituting a National Council of Vocational Education and Training (NCVET) and, under its umbrella, a National Accreditation and Equivalence Board (NAEB);
  - constituting the State Councils of Vocational Education and Training (SCVETs) to work in co-ordination with NCVET as well as the State Boards of Vocational Education and Training (SBVETs) to work in coordination with NAEB;
  - District Boards of Vocational Education and Training (DBVETs) to work in coordination with SBVETs;
  - regulation of the role of private bodies (Trusts, Corporations, associations, industries, NGOs etc.) in VET within the broad national policy framework (which includes the obligation to provide 'work benches'/ 'work places'/ 'work spots' for both work-centred education and VET); and
  - providing measures for strengthening and implementing the Apprenticeship Act.

The National Focus Group is fully aware that a great deal of work lies ahead in order to work out a detailed programme of structural, academic and budgetary shifts that would be necessary for moving from the present 'no win' stage to a stage of a vibrant nation-wide programme of VET. It is recommended, therefore, that a duly empowered committee be constituted by NCERT/MHRD comprising experts, VET teachers and other practitioners, artisans, industrialists and social activists with a

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[48] *The prevailing practice of framing policy and programmes with the so-called 'national' targets (which are in fact only government targets) is clearly misconceived. The plural and diverse geo-cultural conditions of the country, the wide-ranging disparities and the regional imbalance do not lend themselves to the idea of a single, unitary and inflexible 'national' target. Such targets are indeed designed to fail. Instead, what is needed is to allow the local school structures or VET centres (in association with VECs/ PTAs/ managing committees, PRIs and DIETs), sharing similar geo-cultural conditions, to construct their own* disaggregated *targets, an idea advocated by the NPE Review Committee (GoI, 1990). This implies that a country like India may evolve thousands of disaggregated targets which are then owned by the PRIs local school structures or VET centres and communities as they themselves would be involved in constructing them. This sense of ownership is entirely lacking when the 'national' targets are imposed. It is here that the concept of 'negotiated time-frame' assumes significance as it implies that the empowered local decision-making structures can negotiate an autonomous time-frame (and strategy) for achieving an objective with the state-level or central agencies such as SCVEs, State Boards of VE or NCVE.*

THE COIMBATORE EXPERIENCE

(Full text in Annexure XI)

The experience of a former student and later as Headmaster of Sarva Jana Higher Secondary School (Coimbatore, Tamil Nadu) with respect to Vocational Education in his school from 1924 to date offers the following lessons for the policy makers:

1. Carpentry was introduced in the middle and high school classes as a craft. In addition to making models as per the syllabus, students were encouraged to design and make any article that may be of use to them at home. Only nominal cost of wood was collected from students. This developed a sense of pride among students. The Workshop was open even on holidays and the sense of ownership was so much that not a single item got missing from the workshop.
2. In 1948, bifurcated (diversified) course were introduced. The school offered Secretarial Practice and Engineering. The training was so intensive that the courses were not only popular but the students turned out to be entrepreneurs on leaving the school. It is this batch of students who became leaders in small-scale industries in the Coimbatore region.
3. In 1978, Tamil Nadu introduced Higher Secondary Courses. The school introduced six vocational courses and, in the first year, out of 300 enrolments, 180 opted for vocational courses.
4. Some of the strategies adopted to make Vocational Education successful are:
   (a) A Vocational Advisory Committee (VAC) was formed *at the level of school* with representatives from the associations of all major industries of Coimbatore and alumni who were entrepreneurs. The VAC advised the school regarding,
   - Selection of courses: The courses with job potentiality for the next two years were identified and suggested for introduction. Similarly, the courses that had become infructuous were recommended for discontinuance.
   - Training Facilities: Industrial and other establishments that could provide in-plant training and hands-on experience were suggested.
   - Suggestions for constitution of sub-committees for designing courses were also made. **The school had the privilege of designing its own syllabi for over eight courses and had them approved by the Department.**[49]
   - Placement for school leavers. Many a time students got a job even when they finished the first year.

[49] *This must necessarily be viewed as an exception which evidently was a result of the initiative taken by the visionary Headmaster of this school in Coimbatore. If flexibility, innovativeness and creativity with respect to vocational education courses was provided for in the policy framework, the general picture of the courses in the country remaining unrevised for decades and becoming outdated, as observed by NCERT's Working Group in 1998 (see Section 7, p. 41) and also reported specifically for Tamil Nadu (see Section 5, p. 22), would not have existed. Clearly, personal initiatives and local successes like this bring out the great potential for change but would have only limited value unless policy makers incorporate the emerging lessons in the policy framework.*

(b) Go beyond the curriculum was the policy adopted. Job proficiency and not just certification had been the hallmark. Holidays and vacations were utilised to send students for prolonged in-plant training. The courses were also suitably modified to meet the changing needs.

(c) Placement cell: The Headmaster himself acted as the Placement Officer. He kept himself in close touch with employing agencies. He also monitored how the students perform in their new jobs.

The following additional lessons from the general experience in Tamil Nadu may also be noted:

- Courses must be carefully selected on the basis of job potential. Most courses in existence do not lead to any job.
- Vocational Advisory Committees should function at school and higher levels.
- Enough flexibility should be provided to take note of the changes taking place as well to help go for further studies in that area.
- The TTTIs should provide training in pedagogy for vocational teachers.
- Practicals should include in-plant training.
- Accreditation of courses with certificate of equivalence with other courses should be done.
- A Placement Cell should function in every school in addition to a guidance and counseling center.

– Dr S.S. Rajagopalan
Former Headmaster, Sarva Jana Higher Secondary School
Coimbatore, Tamil Nadu

broad-based Terms of Reference to prepare a blueprint of a nation-wide programme of VET in the mission mode, keeping in mind the framework elaborated in this paper.[50]

8. Evaluation and Assessment

Let us begin by citing a highly perceptive observation made by a member of the National Focus Group on 'Systemic Reforms for Curriculum Change' with regard to the examination system:

> "The Standard X examination extends over about only fifteen days a year. But the shadow it casts is so long that it profoundly affects both students and schools. For many students the Standard X year is a time of unremitting stress. Failure in the examination is a major disaster, and among the better students failure to get sufficiently high marks is almost as bad. From the standpoint of the school, the examination determines the content and methodology of schooling down to the upper-primary level [effectively, this is 'down to pre-primary level']. Thus if we are to conceptualise meaningful reforms in the educational system as a whole, it is essential that we take a hard look at this examination and the associated curriculum, syllabi and textbooks. In so doing we shall see that we must squarely face certain long-standing dilemmas. . . . . The basic problem with the Standard X examination is that despite the fact that only a small percentage of students go on to higher secondary school and college, the curriculum is designed exclusively for that small

[50] *A note of urgent concern is due. The Ministry of HRD is apparently engaged at present in finalizing a well-funded Centrally Sponsored Scheme of VET. It would be helpful if NCERT urgently consults the Ministry and makes them aware of the VET framework proposed here. Care should be taken to ensure that the two exercises do not conflict with each other as the Ministry's scheme is likely to be restricted by the prevailing policy framework of NPE-1986.*

> number. According to my estimates [in Maharashtra], of the cohort of children who enter (or should enter) school in the first standard, only 14 per cent pass the public examination at the end of Standard X. Thus 86 percent of the students are lost along the way. Of the 14 per cent remaining, the number of those who actually go on to college is, of course, much smaller."
>
> – Maxine Berntsen
> Phaltan, Distt. Satara, Maharashtra in her Note entitled, 'Examination Reforms: Some Dilemmas' submitted to NFG on 'Systemic Reforms for Curriculum Change'

In order to do justice to the goals of work-centred education, a system of formative and summative assessment will have to be institutionalised at all stages of education, including the public examinations at school level and competitive entrance tests in higher education. The assessment must be based on such evaluation parameters as will test the multi-dimensional attributes and capacities (including generic competencies discussed in Section 6.2) that are expected to develop in the cognitive, affective and psycho-motor domains in a holistic manner amongst the children engaged in work-centred education. Many of these attributes and capacities can be evaluated only through a **process-based assessment system that trusts the school teachers** in combination with VECs/ PTAs/ managing committees, PRIs, DIETs and other decetralised structures.[51]

The prevailing paradigm of evaluation parameters and assessment procedures will have to undergo a radical transformation as it is based on the following five *questionable and hitherto unsubstantiated premises:*

(i) What is worth evaluating in a child is primarily book-centred, recall-oriented and embedded in a restricted (almost parochial) dimension of the cognitive domain;

(ii) A fragmented vision of human and social development can be a viable basis of assessment wherein the cognitive domain is effectively de-linked from affective and psycho-motor domains, the latter two domains playing little role in the educational process.

(iii) The 'certified' (or 'valid') knowledge, as pre-determined by hegemonic (socio-cultural, patriarchal and economic) forces, is the only form of knowledge that needs to be tested in the school system, while entirely ignoring and marginalising all other forms of knowledge available with the large productive sections of society.

(iv) The school will provide a meaningful space to a preferred curricular component and/or a pedagogic objective over a sustained period (to be distinguished from a short-duration innovative experiment) even if these elements are negated by the evaluation parameters and the method of assessment.

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[51] At least two experiences in reforming the examination system along these lines would be worth studying in this context. First, the Hoshangabad Science Teaching Programme (HSTP) which institutionalised experiment-based and inquiry-oriented pedagogy of learning science in almost 1,000 upper primary schools (largely government) in 14 districts of Madhya Pradesh (1972-2002). This necessitated a radical change in the public examination system at Class VIII level in order to incorporate evaluation and process-based assessment of attributes that develop through this pedagogical approach. The state government made all the necessary adjustments in order to make this possible for almost 30 years! Second, six constituent colleges of Delhi University have participated in a 4-year Bachelor of Elementary Education (B.El.Ed.) course after +2 under the academic guidance of the Maulana Azad Centre for Elementary and Social Education (MACESE) of the Department of Education, Delhi University. This called for an intensive programme of re-orientation of the faculty and a continuous exercise of internal assessment of activities, projects and school internship. A detailed system was evolved to make internal assessment comparable, reliable and pedagogically valid. The University made several changes in its ordinance to make this feasible.

(v) The public examinations and competitive entrance tests are more reliable and objective than the process-based formative assessment undertaken by teachers.

There is an urgent need for a nation-wide transparent debate on each of the above premises which have dominated the educational discourse in the country since Macauley's Minutes of 1835. These premises have prevailed inspite of wide-ranging and repeated recommendations for examination reforms by all commissions and committees during the post-independence period. An alternative paradigm of evaluation and assessment in the school system is unlikely to develop as long as the discourse is restricted to only the ruling elite and the middle classes. These sections of society have developed a vested interest in maintaining their control over the natural resources, means of production, economic cake and political power by screening out a substantial proportion of children from the school system. Even the other backward classes that have gained limited access to education in recent decades (primarily as a result of green revolution) have acquired a similar vested interest in the now defunct examination system as they have learnt to manipulate the outcome of the system in their favour. It will be necessary, therefore, to engage the vast *non-literate but productive forces*, largely excluded from education, in this debate so that they begin to question the epistemic basis of these premises. The effort will have to be supported through a great deal of educational research aimed at documenting and generating alternative knowledge for re-constructing the curriculum (see Section 11). The education system has failed since the Gandhian call at the Wardha Education Conference (1937) to make productive work the pedagogic medium of learning in the mainstream curriculum, precisely because the aims of work-centred curriculum could not be accommodated within the prevailing curricular framework and the dominant paradigm of evaluation and assessment. Perhaps, it would help if work-centred education is not viewed merely as an end in itself but is **designed instead as an essential part of the complex exercise of transformation of national curriculum framework and the system of public examinations and competitive entrance tests.**

The National Focus Group has initiated a search for the evaluation and assessment systems practiced by the *Nai Talim* institutions in the past, though their context was entirely different from the work-centred education being proposed here.[52] Certain outstanding features are being enumerated here:

- Evaluation was primarily formative and process-based in character.
- The system was founded on mutual trust among the children, teachers and school authorities.
- Evaluation was process-based i.e. undertaken while children were engaged in productive work, self-study, playing, singing and dancing, community action and other activities.
- Teachers and children lived and worked together as a community; this made it possible for them to undertake mutual evaluation i.e. among children as peers and teachers evaluating children and *vice versa.*
- The evaluation parameters covered a wide range of attributes in the cognitive, affective and psycho-motor domains.
- Although an evaluation sheet was designed, flexibility was encouraged.
- Children were neither awarded marks nor were declared as having passed or failed; instead the

[52]*One of the institutions looked at was LAXMI ASHRAM (Kausani, Distt. Almora, Uttaranchal), a residential school for girls of that region.*

teacher would make explanatory entries in the evaluation sheet with a view to help the child overcome her difficulties, hesitation or emotional problems.

In contrast, the entire system of public examination is built upon the principle of *distrust* of children, parents, teachers, HMs and Principals, education officers, teacher educators, PRIs and municipal bodies etc. This distrust has given rise to the whole malaise of *cut-throat competition and manipulation of the system* which the children begin to internalise from pre-primary years onwards. The system's own dysfunctionality, lack of credibility and retrogressive impact on the children as well as the curriculum are now widely acknowledged. The evaluation parameters and the assessment procedures of this system are contradictory to the goals of not just the work-centred curriculum but also the holistic aims of child development and education in general. The only rational option is to abolish the very idea of such an anti-child, anti-social and anti-education system of public examination, as it can't be reformed! It needs to be replaced by a child-friendly and educationally sound system of formative and summative assessment founded on the principle of trust of all concerned. This implies that the certificates awarded by schools will have to be relied upon for admissions and recruitment at higher levels. In any case, the society has already started the process of disregarding the public examinations by instituting competitive entrance tests (these too need major reforms themselves!). *Over a period of time, individual schools are bound to realise their accountability to the society and learn to institute a reliable and rational system of evaluation and assessment.* Admittedly, Indian society and polity is not ready for such a radical departure from the colonial paradigm. It is essential, therefore, that a phased programme of winning social and political consent is designed and implemented with full political commitment.

9. Enabling Conditions

Enabling conditions for successful institutionalisation of the aforesaid universal programme of 'Work and Education' in the national system of education are enumerated below:

1. A Common School System with *non-negotiable minimum* infrastructural, curricular and pedagogic norms (including a rational language policy) that will include all schools irrespective of the type of their management, sources of income or the affiliating Boards of Examinations (see Annexures VII). In view of the varying misperceptions that exist with regard to the Common School System, it would be useful to elaborate upon this concept, especially because the concept has evolved significantly since it was originally proposed by the Education Commission (1964-66) and incorporated in the 1986 policy.

"What is a Common School System? The most important feature of a Common School System is *equitable* (not *uniform*) quality of education for all types of schools, be they Government, government-aided, local body or private schools. Six essential and non-negotiable attributes of equitable quality of education need to be specified : (i) minimum physical infrastructure, including library, teaching aids, playgrounds and many other features (for example early childhood care centres and pre-primary schools attached to primary/elementary schools); (ii) professional quality of teachers and teacher : student ratio parity; (iii) diversified and flexible curriculum to reflect the geo-cultural plurality of the country, while emphasising certain core curricular features of nation-wide significance, as specified by

> the policy; (iv) pedagogy for holistic, child-friendly and liberative education; (v) apart from gender sensitivity, pedagogic and social empathy for the *dalits*, tribals, cultural and ethnic minorities and the physically or mentally challenged children; and (vi) de-centralised and community-controlled school system."
>
> – Anil Sadgopal (2000), Annexure VII

Thus the Common School System will *neither promote uniform education throughout the country nor would it work towards abolition of the private schools*. However, it will ensure that (a) no schools function which practice discrimination on any ground whatsoever or become means of exacerbation of disparity and fragmentation of society; and (b) education is not used as a source of profit, subjugation and hegemony. Instead, **it would ensure education of equitable quality for all children and provide ample space for the expression of the geo-cultural diversity in the curriculum.** Clearly, such a radical idea needs to be debated among various sections of population and enriched by their diverse perceptions. It may be pointed out here that no country in the world, representing both the developed and developing economies, has managed to achieve UEE without having a Common School System or its variant. The resistance to this idea comes chiefly from the elite and the middle classes. In contrast, the vast sections among the deprived would extend support once the idea is made clear to them. It is also evident that the proposed work-centred education would be **a non-starter as long as it is not implemented in all the schools of the country within a declared timeframe**.

2. All schools upto the elementary stage initially to act as genuine Neighbourhood Schools in both the rural and urban areas, as recommended by the Education Commission (1964-66); this programme needs to be extended upto the Plus Two stage in a phased manner within a declared time-frame.
3. The National Curriculum Framework and the core curriculum as approved in the national policy will be applicable to all schools in the country including the private unaided schools. Within these broad parameters, each school or a school cluster will have full flexibility for negotiating its own curriculum and adopting contextual texts and innovative teaching-learning processes.
4. A system of formative and summative assessment needs to be developed whose evaluation parameters will test the attributes that are expected to develop amongst children from work-centred education. The public examination system as well as the competitive entrance tests at all levels will be restructured in order to incorporate these principles of assessment.
5. The entire education system will be developed on the principles of inclusive education for all.
6. The prevailing policy imperative (NPE-1986, Sections 5.17 and 5.23) of viewing 'Vocational Education' as a distinct stream at the senior secondary stage, parallel to the general or academic stream, needs to be urgently reviewed in order to integrate 'Vocationalised Education' in the core curriculum for all students, thereby ending the present dichotomy between the academic and vocational streams in the school system.
7. Legislation will be enacted to ensure education of equitable quality for all children, irrespective of their class, caste, sex, religion, region, language or disability (physical or mental). In addition, all the legislations suggested in this paper will need to be enacted within a time-frame.

10. The Roadmap[53]

The Position Paper envisages a revolutionary envisioning of education along with major systemic changes with the purpose of making education a powerful instrument of social change, justice and equitable economic development. Such a mighty transformation is not possible without careful planning of the process of change. However, the immensity of the challenge should not be made into an excuse for either inordinate delay in decision making or undertaking yet another hesitant experiment. Significant lessons in this regard can now be drawn from the historical overview and critique of policy and practice as presented in Sections 2 and 3 respectively.

- ***First,* the time for experiments is long over.** We already have access to the pedagogic experience (both positive and negative) of hundreds of Basic Education institutions from 1940s to 1980s and the well-documented recent programmes of work-centred/related education and vocational education in several countries of the world (see Annexure VI for an indicative list). This wealth of available knowledge needs to be analysed, evaluated, synthesised, internalised and then applied to our diverse socio-cultural conditions. To this we would like to add the wide-ranging narratives of contemporary experiences compiled by us from different parts of India during the brief period of 4 months covering three meetings of the National Focus Group (see Section 13.3). This is an indication of how much more knowledge exists in this field that is yet to be tapped.
- ***Second,* directionless, dithering and ambiguous steps for endlessly 'incremental' implementation (like a tunnel without an end!) and, that too, without appropriate policy changes, timeframe or adequate resource allocation at the national level, will just not work.** Whenever such half-hearted measures were taken, they not only ended in a disaster but also created tremendous confusion and skepticism regarding future reforms. Let us not repeat this unfortunate history of policy making and curricular reforms. What is instead called for, to begin with, is an unambiguous declaration of *all* the necessary policy changes with a clear timeframe for phase-wise and nation-wide simultaneous implementation of both work-centred education *in the entire school system* (including the private un-aided schools) and Vocational Education and Training Programme (VET) *outside* the school system.
- ***Third,* it is a widespread misconception that curricular reforms can be de-linked from structural changes in the school system.** As shown in Sections 2 and 3, attempts at curricular reforms collapsed time and again due to lack of supportive or complementary systemic changes in areas such as decentralisation of school administration; devolution of powers to the Local Bodies/VECs/PTAs/managing committees and creation of other structures of participative decision making; re-organisation of teacher education courses and rationalisation of their recruitment procedures; participation of teachers and the community in curricular development and text preparation; redefining evaluation parameters and examination reforms; linkages between school and its social ethos; reviewing the role of

[53] *This Section is based on the contribution made by Dr. Vasanthi Devi, Member, National Focus Group on 'Work and Education'.*

academic resource agencies (for example, NCERT, NIEPA, SCERTs, State Boards of Examination, DIETs etc.) and creating community-based and socially accountable processes of feedback and monitoring.[54] A range of policy recommendations, field studies and experiences are now available on each of these aspects. It would be a wishful thinking that the curricular reform proposed here can be successfully implemented without such policy support and systemic changes.

- ***Fourth,* it is wrong to assume that the implementation of curricular reform in a category of schools (for example, government/ local body schools) can be sustainable, while keeping the rest of the schools unreformed.** The process of curricular reform has to cover the entire school system, including the private unaided schools, in order to become sustainable. It is nobody's case, however, that the full coverage can happen overnight by a *diktat* from above but there has to be a credible policy-level declaration of a *phase-wise plan to make the full switchover within a specified timeframe* so that the general public has the confidence that their children are not being treated as guinea pigs. It is this insight that has prompted us to propose in Section 9 that one of the enabling conditions for introducing a programme of work-centred education is the *Common School System (CSS) with the instrumentality of Neighbourhood Schools (at elementary level, to begin with)*, as long as this includes the private unaided schools as well. The CSS ensures that the National Curriculum Framework along with its core curriculum, quality of teacher education courses and the evaluation parameters and assessment procedures in public examinations will be common (*not* uniform) to all the schools. Within this broad framework of CSS, there would be plenty of space for flexibility, contextuality and innovation for individual schools and teachers. It is only when the poor children in government or local body schools and their parents know that work-centred education is being implemented in all categories of schools (including, for instance, Kendriya Vidyalayas, Navodaya Vidyalayas, private unaided schools etc.) that they will not look at the programme with suspicion. Otherwise, the deprived sections will be the first ones to resist the idea even if it gives them certain strategic advantages, accords dignity to their knowledge and skills and makes the curriculum more relevant to their lives. We might add here that the goal of **UEE can't be achieved without establishing the CSS and Neighbourhood Schools.** The 1986 policy with respect to UEE followed by DPEP, EGS and now the Sarva Shiksha Abhiyan have all collapsed one after another basically because (a) they were founded on the untenable sociological principle of multiple track education of

[54] *Let us look into two experiences, one positive and one negative. The Education Commission (1964-66) recommended a common curriculum for the first ten years of schooling to be followed by diversification of courses at the senior secondary stage. Along with this, the Commission recommended that the entire school system in the country be restructured along the 10+2 pattern. The central government accepted the 10+2 pattern as a national policy and enabled the States/UTs to make this transformation. This made it possible for the whole country to implement the recommended curricular reform at secondary/senior secondary stages as well. The negative experience relates to the recommendations of the Yash Pal Committee (GoI, 1993) on 'Learning Without Burden'. Inspite of a lot of noise by the Ministry in support of these recommendations, no credible steps were taken to make the complementary policy-level and structural changes with regard to the over-centralised ways of preparing textbooks; outdated and irrelevant teacher education courses; rigidity of school organisation in terms of annual calendar, classes, periods and homework; bringing the private unaided schools within the concept of National Curriculum Framework and core curriculum; and, most importantly, redefining evaluation parameters and assessment procedures in public examinations that promote over-burdened curriculum. The result: the report remains unimplemented to date despite the widespread public support it continues to receive. In the meantime, the curriculum has become even more burdensome and less comprehensible than it was in 1993!*

varying quality for different sections of society and (b) none of them ever thought of transforming the socio-cultural and pedagogic character of the school system. There are surely other factors for this collapse but one thing that has been common to all these policies and programmes is their lack of commitment to the philosophy of CSS and Neighbourhood Schools. No developed or developing country has ever achieved UEE without a powerful state-funded CSS with Neighbourhood Schools. India is not going to be an exception either to this historical experience. **And without an effective and universal programme of work-centred education, it is unlikely that UEE (and later Universal Secondary Education too) would succeed!**

The above four lessons constitute the basic premises on which the roadmap proposed below for moving towards work-centred education stands. As per this roadmap, the programme of work-centred education in its entirety should be in place in all schools of the country (including the private unaided schools) within a timeframe of **five years**. Similarly, a nation-wide programme of VET should be implemented in mission mode as elaborated in Section 7. within a period of **five years**. The broad contours of a phase-wise plan of implementation are indicated below:

Phase I (First Year)

1. Appropriate modifications in the National Policy on Education-1986 (as modified in 1992) and Programme of Action-1992 by the Parliament with respect to both work-centred education and vocational education with the objective of
   - including the concept of work-centred education in the core curriculum for the entire school system of the country, as elaborated in Section 6; and
   - organising Vocational Education and Training (VET) programme in mission mode *outside* the school system, as elaborated in Section 7; this is to be founded on the bedrock of 10-12 years of work-centred education in the school system, implying that the prevailing policy of providing a parallel marginalised vocational stream at the Plus Two stage will be replaced by a powerful and dignified option of VET *outside* the school.
2. National consensus to be reached through CABE and the forum of the Conference of State Education Ministers with regard to a nation-wide programme of work-centred education and VET, to be followed by the release of a national declaration of a phase-wise five-year programme of implementation and articulation of related political-cum-budgetary priorities at Central as well as State/UT-levels.
3. The issue will require the political attention of the Prime Minister and all Chief Ministers of States; this may be taken up at the meetings of the National Development Council and Planning Commission respectively.
4. NCERT (including PSSCIVE at Bhopal) and NIEPA to be re-oriented in order to play the role of lead resource agencies at the national level in the proposed process of curricular transformation; this will require a radical change in their worldview of knowledge, values and skills and re-examination of their positions with respect to class, caste, gender, culture, languages and disabilities (physical and mental).
5. Lead is taken by CBSE and ICSE to adopt the programme of work-centred education for all of

their affiliated schools (including the private unaided schools).

6. As many State/UT governments as possible are persuaded to adopt the programme for their respective State Boards of Examination (including their affiliated private unaided schools). This can be done through CABE, Ministry of HRD (Conferences of State Education Ministers) and the Planning Commission and other fora.
7. A well-funded Centrally Sponsored Scheme may be initiated, with provision for adequate funding to continue during the Five Year Plans following the end of the Scheme. Also, a carefully designed programme of incentives and disincentives may be used to persuade both the States/UTs as a whole and the private unaided schools in particular to start the programme.
8. CBSE, ICSE, State/UT Boards of Examination, SCERTs, all teacher education institutions to be re-oriented in order to play the role of lead resource agencies at the National/State/UT level in the proposed process of curricular transformation; these agencies would need to be sensitised to geo-cultural diversities, local contexts and the rich variety of work categories that would become pedagogical tools; this will require a radical change in their worldview of knowledge, values and skills and re-examination of their positions with respect to class, caste, gender, culture, languages and disabilities (physical and mental).
9. Curriculum development is to be undertaken by CBSE, ICSE and the respective State/UT Boards and/or SCERTs for all stages of school education (from pre-primary to senior secondary), with indicative and illustrative models for making work-centred education the central curricular theme as part of the core curriculum.
10. Curriculum development is to be undertaken in both the *pre-service and in-service* modes for all types of teacher education institutions (DIETs, Colleges of Education, University Departments) in order to prepare teachers for the work-centred pedagogy. The teacher education courses will have to address the question of cultural resistance among the teachers towards this pedagogy. The issues of gender, class, caste, culture, language and disabilities and their relationship with the forms of knowledge, values and skills in curriculum must receive special attention in this process. NCTE will have to play a proactive role accordingly in modifying its framework of faculty qualifications as well as recognition and monitoring of teacher education institutions.
11. Twenty per cent of the teachers in each State/UT drawn from schools (as per the considerations in Phase II) to be identified for re-orientation towards work-centred pedagogy through the in-service mode in collaboration with DIETs, Colleges of Education and University Departments of Education; teachers of the private unaided schools also to be brought into the training schedule.
12. Vocational Education and Training (VET) programme in mission mode, as envisaged in Section 7, must begin to be set up *outside* the school system, also in phases, in all the States/UTs and District (in XI Plan) and Block headquarters (in XII Plan). Adequate financial allocation must be earmarked for the programme. A phased plan of shifting and adjusting the resources already invested in about 6,000 senior secondary schools would have to be dovetailed in the new VET programme. All institutions and structures concerned with productive work (as indicated in Section 7) as well as the industry must be asked to extend its

full support to the programme, committing the necessary human and financial resources, as these would be the immediate beneficiary when educated and skilled person-power is made available.

13. A certification process, simple, flexible and decentralised, must be put in place under the umbrella of a national plan of accreditation and equivalence. The VET centers should be duly empowered so that the certificates issued by them and/or their 'work benches' (or 'work places'/ 'work spots') will be recognised in the market.
14. Appropriate legislative measures at the Central/ State levels will need to be taken with respect to the programme of work-centred education for the purpose of,
    - establishing the Common School System and Neighbourhood Schools; and
    - fully realising the potential of the 73rd and 74th Constitutional Amendments in order to ensure that the political power to control and manage schools and recruit teachers is duly devolved to the Local Bodies, as originally envisaged in the above Amendments; mechanisms will also have to be evolved to engage the Local Bodies in curricular development and preparation of texts within the framework of the National Policy and National Curriculum Framework as such participation is crucial for the successful implementation of the work-centred curriculum.
15. Appropriate legislative measures will be required at the Central/State levels with respect to the VET programme and creation of appropriate structures for the purpose of
    - constituting a National Council of Vocational Education and Training (NCVET) and, under its umbrella, a National Accreditation and Equivalence Board (NAEB);
    - constituting the State Councils of Vocational Education and Training (SCVETs) to work in coordination with NCVET as well as the State Boards of Vocational Education and Training (SBVETs) to work in coordination with NAEB;
    - District Boards of Vocational Education and Training (DBVETs) to work in co-ordination with SBVETs;
    - regulation of the role of private bodies (Trusts, Corporations, associations, industries, NGOs etc.) in VET within the broad national policy framework (which includes the obligation to provide 'work benches' for both work-centred education and VET);
    - providing measures for strengthening and implementing the Apprenticeship Act.; and
    - redefining the role of the PSS Central Institute of Vocational Education (NCERT) at Bhopal in work-centred education *within the school system* and VET programme *outside* the school system and reviewing its faculty recruitment policy and budgetary allocations in accordance with its enhanced academic and developmental responsibilities.

Phase II (Second Year)

1. Introducing the programme of work-centred education through teachers trained in the previous year in 20 per cent of the schools in each State/ UT in the first year of each stage of school education viz. in pre-primary (first year), Classes I, VI, IX and XI.
2. Of the total number of schools in each State/UT, at least 50 per cent must be in the metropolitan

areas and the District headquarters, with private unaided schools constituting at least one-third of these; the remaining schools to be distributed equally in all the Block headquarters in each of the Districts of the State/UT. Such a distribution will send a clear message across the country that the policy makers are serious about the goals of work-centred education.

3. An intense but decentralised programme of monthly feedback meetings at Block/District headquarters (or other appropriate school clusters in the metropolitan areas), including enrichment sessions, to be organised for the 20 per cent teachers now engaged in the programme; Kothari Commission's concept of Education Complexes, each led by a Senior Secondary School, would be the most appropriate one for this purpose.
4. A district-level (or its equivalent in metropolitan areas) convention of the 20 per cent teachers engaged in the programme be held at the end of the year with the purpose of sharing their experience in the programme with the parents and the general public and to receive their feedback.
5. An additional 20 per cent of teachers (drawn from schools as per the considerations in Phase III) to be re-oriented through the in-service mode as in Phase I.11; at the end of the second year, 40 per cent of the employed teachers in the country would have been trained.
6. Special attention to re-orient the Teacher Educators of the teacher education institutions; monitoring of the quality of the pre-service and in-service programmes.
7. Work to be initiated by CBSE/ICSE and the State Boards of Examination to redefine the evaluation parameters with respect to the objectives of work-centred education, especially the Generic Competencies (Section 6.2) and evolve appropriate procedures of assessment.
8. Review and course correction, wherever necessary, without in anyway diluting the spirit and the purpose of the work-centred education programme.
9. As follow-up of the legislative measures with regard to CSS and Neighbourhood Schools, a well-designed programme of quality improvement of the government, Local Body and government-aided schools to be organised in all phases of the programme; all measures necessary for institutionalisation of CSS and Neighbourhood Schools to be taken, especially the programme of incentives/disincentives to bring in the private unaided schools in CSS and develop them as genuine Neighbourhood Schools.
10. A close follow-up of all the legislative measures taken during the first year for VET will need monitoring and feedback for making mid-course corrections.

Phases III to V (Third to Fifth Year)

1. Introducing the programme of work-centred education through teachers trained in the previous year in an additional of 20 per cent of the schools in each State/UT in the second year of each stage of school education viz. in pre-primary (second year), Classes II, VII, X and XII; with this step, 40 per cent of the schools would have been covered.
2. At least 50 per cent of the additional schools selected for this year must be in the metropolitan areas and the District headquarters, with private unaided schools constituting at least one-third of these; the remaining schools to be distributed equally in all the Block headquarters in each of the Districts of the State/UT.

3. The programme of monthly feedback meetings to continue for 40 per cent of the teachers now engaged in the programme.
4. Extension of the programme to an additional 30 per cent of the teachers (drawn from the schools not covered so far); with this extension, 70 per cent of the teachers would have been covered.
5. All new teachers to be recruited from the third year onwards should be those who have graduated from the courses redesigned for the purpose of work-centred education.
6. Work initiated by CBSE/ICSE and the State Boards of Examination to redefine the evaluation parameters would need to be consolidated during the third year; field testing of the redefined evaluation parameters to begin; formative and summative assessment to be in place in all the schools covered by now.
7. The programme of quality improvement initiated in the government, Local Body and government-aided schools during the second year to continue as before in order to move ahead towards the realisation of CSS and Neighbourhood Schools.
8. Follow-up of all the legislative measures taken during the first year for VET to continue as in the second year; the establishment of new VET centres to be extended in the third year to the level of village clusters.
9. With 40 per cent of schools already covered by the end of the third year, accelerate the extension to another 30 per cent in the fourth year and the last 30 per cent in the fifth year.
10. All other measures of legislative, administrative or academic support to continue as before.

The following three forms of social support for the programme at the operative level are being proposed:

- The civil society should launch a massive, nation-wide social movement to mobilise support for the programme. The movement should continue through the entire period of adaptation and implementation. Indeed, it should commence even before the launching of the programme and continue for several years after the end of the above five-year timeframe in order to sustain the momentum and social support.
- As the school system is to be owned, guided and monitored by the community, PRIs and VECs/ PTAs/ managing committees should be sensitised and trained to take up their responsibilities during the transition period and beyond. They should constitute the platform for grassroots level interactive process, strengthening the State-level and national level programme formulation, planning and monitoring.
- Parents should be involved in planning and implementation through Parent-Teacher or Mother-Teacher Associations or as a committee constituted by the concerned PRI. The poor parents should be especially empowered to feel that they are the major stake-holders in the enterprise.

We are convinced that India has the necessary administrative acumen, pedagogic experience and the economic capacity today to translate this radical vision on the ground, provided the government is willing to accord it the required political priority that it deserves.

11. Research Issues

The following research issues are being identified with the purpose of creating a dynamic knowledge-base that will continue to enrich the proposed programme of work-centred education:

1. What is the socio-political and economic consequence of inheriting a 'cultural mindset'

(further strengthened through religious sanctions) that dichotomises work and knowledge in social as well as curricular practice and places knowledge at the 'summit' and manual skills at the bottom of the hierarchy of power relations? To what an extent and how does this 'cultural mindset' impede the development of 'modernity', perception and practice of India's Constitution and evolution of a truly democratic, egalitarian and secular nation-state?

2. The emerging paradigm shift in the nature and context of work-related knowledge, values and skills that is taking place as a consequence of neo-liberal economics, especially with reference to a developing economy like India's.
3. The socio-economic and cultural dimensions of the above paradigm shift with respect to (a) gender; (b) caste hierarchy; (c) religious and linguistic minorities; (d) physical and mental disabilities; and (e) regional imbalance; the question of power relations and control of knowledge should constitute a central concern in this study.
4. What is the significance and nature of the contribution of non-manual and 'technology'-linked work (for example, ICT) to (a) growth of employment and work-force; (b) GDP; and (c) social development in India?
5. To what extent is the socio-cultural prejudice against manual work related to the low wages paid to those engaged in such vocations? Will higher wages and/or income generated through manual work be adequate to delink the socio-cultural prejudice from its class, caste, gender and regional roots?
6. The re-education (unlearning?) process and attitudinal transformation that the young people from India undergo in order to make good when they migrate to the developed economies (for example, North America, Europe, Australia, Japan etc.), using their original but largely unused potential.
7. The nature as well as the degree of incompetence among the pass-outs from the school system (after Class X or XII) in terms of their cognitive, manual, technological, social, psychological and relational skills and the relationship between this incompetence and the prevailing curriculum.
8. Why does the school system fail to build thinking, competent, creative, confident and enlightened young people in substantial proportions?
9. The impact of integrating productive and other forms of work into the curriculum on the development of attributes such as critical thinking, creativity, curiosity and questioning, intuition, open-mindedness, observation, experimentation, self-learning, problem-solving, initiative, cooperation and ability to work in teams, building social relations, dealing with contradictions in personal life and society, and pursuing new ideas with confidence; the socio-cultural dimensions of gender, caste, religion, language, disability (physical and mental) and region should be significant variants of this study.
10. The epistemological, socio-cultural and pedagogical dimensions of work as an essential constituent of the process of holistic learning and development at various stages of school education.

This is a tentative list. It merely indicates the kind of gaps that exist in our knowledge. A great deal of thought needs to be given to undertake a well-designed programme of research in order to generate a rich knowledge-base for building up a successful programme of work-centred education.

12. Need for a Social Movement and Building Awareness[55]

The above proposal envisages a radical departure from the present educational system. This would not be obviously possible without building up a nation-wide social movement in its support. In this sense, the present paper is to be viewed as an advocacy document – for the policy makers, curriculum planners, students, parents, teachers and teacher-educators, educationists, youth and women's groups, child right and other human right bodies, associations of writers, artists and cultural workers, *Panchayati Raj* Institutions, industry and trade unions and political parties. This paper aims at building a dialogue with various sections of society, particularly those who have been systematically denied access to education so far.

There are genuine misgivings amongst the poor themselves about the proposed curricular transformation. In view of their historical experience, the deprived sections (especially, *dalits*, tribals, religious and linguistic minorities) would understandably tend to look upon such a proposal as yet another strategy to deny them access to 'certified' and 'valid' knowledge, and, therefore, to vertical mobility, a just share in the economic cake and equitable participation in political power. On the other hand, the elite consensus on the education system may counter by labeling this as a 'conspiracy' to freeze the nation in pre-modern times and prevent her from becoming 'an economic superpower by 2020', the ongoing debate on such myopic notions of India notwithstanding. The real purpose of such an argument by the ruling elite will be to distract public attention from the liberating role of work-centred education.

The State is rapidly abdicating its Constitutional obligations with respect to education, health and other social welfare measures. An unspoken consensus on incremental Structural Adjustments in education resulting from neo-liberal economics now cuts across political ideologies and sectional or regional politics. The Fundamental Right to education of equitable quality for the masses and the structural changes necessary in the education system for ensuring such a right are evidently not on the national agenda today, the ongoing exercise by CABE notwithstanding. No political party gives it a cardinal place in its manifesto and political programme, except for offering periodic *lollipops*, particularly at the time of elections and budget making! At the same time, the elite class interest in education is being promoted with relentless 'commitment' at the policy making level.

The leadership of *dalit*/tribal/OBC/minority[56] organisations has a critical responsibility to deconstruct the above-named elite consensus on education policies which has been systematically practiced through the history for the purpose of social reproduction and exclusion of the masses from their just share in economic and political power. The policy analysis undertaken in this paper in Sections 2 and 3 can be used as an effective tool for such deconstruction. Such an analysis will enable the oppressed sections not just to decipher the elite conspiracy of marginalising work in curriculum as a means of denial of knowledge to the masses but to turn the tables on the ruling elite. In this framework, work-centred education, as presented here, has the potential of becoming a tool in the hands of the masses for changing the epistemic character of school education, influencing production relations and hence for redefining political power. This holistic vision

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[55]This Section is based on the contribution made by Dr. Vasanthi Devi, Member, National Focus Group on 'Work and Education'.

[56]Minority in this context means the backward sections among muslims and all other religious and linguistic minorities as per their caste/occupational history.

must form the basis of the conscientisation process for building a mass movement for transforming the education system in favour of the historically oppressed sections and reconstructing India as a democratic, egalitarian and enlightened society.

Any attempt at bringing in the *Common School System with work-centred curriculum* is likely to be resisted by the elite India with all its ferocity. To counter its well-equipped armory and tilt the balance of power in policy making towards the masses, a broad-based social movement for institutionalisation of work-centred curriculum in the school system is long overdue. Its purpose will be to not only build public pressure on the policy makers for a genuine *Common School System with work-centred curriculum* but also to sensitise various sections of society with regard to the critical role that such a programme can play in making a better India for the future generations.

13. List of Documents

13.1 Documents Circulated Internally within the National Focus Group

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15. Ramakrishnan, K. (2005), List of Studies on Work-centred Education and Vocational Education in Europe and North America.
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17. Sadgopal, Anil (2003), 'Exclusion and Inequality in Education: The State Policy and Globalisation', Contemporary India, Journal of the Nehru Memorial Museum and Library, July-September 2003, pp. 1-36.
18. Sadgopal, Anil (2004), 'Globalisation: Demystifying its Knowledge Agenda for India's Education Policy', 2004 Durgabai Deshmukh Memorial Lecture, Council for Social Development and India International Centre, 15 July 2004.
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20. Sadgopal, Anil (2005), 'Work, Livelihoods and Education: Attempting a Synthesis', presented at the second meeting of NFG on 'Work and Education' at Sewagram, Maharashtra (Feb. 1-4, 2005).
21. Sarangpani, Padma (2005), Comments on the Draft Position Paper as Presented at the meeting of the National Steering Committee for NCF Review, NCERT, Hyderabad, 6-8 March 2005.
22. Tanweer-ul-Sadiqeen , Field Advisor, State Institute of Education, Srinagar, J & K State (participated in the first NFG meeting as the representative of the J & K State Directorate of Education), a letter dated 5th January 2005.
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13.2 Reports from States on Vocational Education and Training

Note: Representative of the Directorates of Education from Andhra Pradesh, Assam, Chandigarh, Delhi, Gujarat, Haryana, Jammu & Kashmir, Maharashtra, Pondicherry, Punjab, Uttaranchal and West Bengal participated in the meetings of the NFG on 'Work and Education' held at NCERT (Delhi), Sewagram (Maharashtra) and Guwahati respectively between December 2004 and March 2005. Each one presented a report on the Vocational Education programme of the State/UT at the Plus Two stage. *Except for the Uttaranchal representative, none other presented a report on the State's work experience/SUPW programme at the elementary or secondary stages.* Only some of these States/UTs submitted written reports.

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2. SCERT, Kerala (1998-99), 'The Relevance, Scope and Problems of Vocational Higher Secondary Education in Kerala', Thiruvananthapuram, Kerala.
3. Director of School Education, Pondicherry (2005), 'Status Report of Vocational Education in the U.T. of Pondicherry', January 2005.
4. Directorate of Vocational Education and Training, Maharashtra (2005), 'Status Report of Vocational Education Programme in Maharashtra, 2004', Govt. of Maharashtra, Mumbai.
5. Department of School Education, West Bengal (2004), 'Annual Report 2003-2004', Government of West Bengal, August 2004.
6. Directorate of School Education, West Bengal (2005), 'Report on Vocationalisation of Education at Pre-Secondary and Post-Secondary Level in Schools' and 'Recommendation for Revamping/ Improvement of Vocational Educationat Pre-Secondary and Post-Secondary Level', presented by Directorate's representative at the third meeting of the National Focus Group on 'Work and Education' held at Guwahati, March 2005.

13.3 Narratives and Reports from Voluntary Organisations/Activist Groups

1. A letter dated 20 December 2004 from Sh. Manish Jain, Coordinator, SHIKSHANTAR, Udaipur, Rajasthan, and a note entitled 'Labor and Local Economies' by Sh. Nitin Paranjape from a SHIKSHANTAR publication.
2. A Note entitled, 'Creative Worlds: My Life, My Knowledge, My Survival' by Sh. Dunu Roy, Hazards Centre, New Delhi, February 2005.
3. A Note entitled, 'Interweaving Work in Education: An Experience in Maharashtra' by Dr. Rajendra Kumbhar, M.N. Roy Institute of Non-Formal Education and Lokshala Programme (Bharat Jan Vigyan Jatha), Karad, Distt. Pune Maharashtra, February 2005.
4. A Report entitled 'Rural Development Through Educational System – A Report' from Vigyan Ashram, Pabal, Distt. Pune, Maharashtra, 2000.
5. A proposal entitled 'Plan for Vocationalisation of Education' from Vigyan Ashram, Pabal, Distt. Pune, Maharashtra, 2000.
6. A Note on the perspective and activities of Vigyan Ashram, Pabal, Distt. Pune, Maharashtra, by Sh. Yogesh Kulkarni, February 2005.
7. A report entitled 'Implementation of Lokseva Kendra Scheme in Maharashtra State, by Sh. Vijay B. Mahajan, Headmaster, Govt. Tehnical High School, Ulhasnagar, Maharshtra.
8. A book entitled 'Rookhi-Sookhi' on famine by children studying at Adharshila, Sendhwa, Distt. Badwani, M.P.
9. Jeevanshala, 'A Six-Monthly Report: November 2002-April 2003', Narmada Bachao Andolan, Vadodara.
10. Jeevanshala, 'Where the Mind is Without Fear: Jeevanshala Report 2004', Narmada Bachao Andolan, Vadodara.
11. A report on 'Sumavanam' by B. Ashok, Jayshree Janardhan and Anita Balasubramaniam, January 2003, Madanapalli, Distt. Chitoor, Andhra Pradesh.
12. An essay on 'Sumavanam' in Madanapalli, Distt. Chitoor, Andhra Pradesh by David Gribble, in 'Real Education', Liberation Education, Bristol, U.K.
13. A Note entitled 'Sumavanam School: Conceptual and Philosophical Basis' by Sh. T.M. Narasimhan, Madanapalli, Distt. Chittoor, Andhra Pradesh.
14. Three textbooks (1992-1994) entitled 'Hamari Dharti Hamara Jeevan' for Classes VI, VII and VIII, prepared by Uttarakhand Paryavaran Shiksha Kendra, Almora.

15. A Note entitled 'Work Experience in Kamala Nimbkar Balbhavan', Phaltan, Distt. Satara, Maharashtra prepared by Dr. Manjiri Nimbkar, February 2005.
16. A report entitled 'Children of the Mirage' by Ganatar, Ahmedabad, 2001 (published by CRY, Bangalore).
17. A Note on 'Vocational Education – Some Experiences' by Dr. S.S. Rajagopalan, former Headmaster of Sarva Jana Higher Secondary School, Coimbatore.
18. Gujarat Nai Talim Sangh (2000-2002), Social Transformation through Nai Talim: Success Story Series, Gujarat Nai Talim Sangh, Gujarat Vidyapeeth, Amdavad, Gujarat (25 reports in Gujarati, Hindi and English each).
19. A Note entitled 'Work in Rajbanshi Community: An Ethnographic Account', by Dr. Jyotirmoy Prodhani, Distt. Dhubri, Assam, March 2005.
20. A Note entitled 'Conceptual Statement on Livelihood', by Dr. Gita Sarma, Guwahati, Assam, March 2005.
21. A Report entitled 'Science, Technology, Information and Rural Development – Experiments of Society for Rural Industrialisation', by Dr. A.K. Basu, Society for Rural Industrialisation, Ranchi, Jharkhand, June 2001.
22. 'Annual Report, 2003-2004', RUDSET Institute, Ujire, Karnataka.
23. 'A Report on Don Bosco Self-Employment Research Institute, West Bengal' by Indian Institute of Management Calcutta, 2003.

13.4 Reports under Reference from PSS Central Institute of Vocational Education (NCERT) and other Departments of NCERT

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2. 'Generic Vocational Course' by Prof. A.P. Verma, May 1996.
3. 'Entrepreneurship Development' by Dr. V.K. Jain October 2001.
4. 'Evaluation of Implementation of the Vocational Education Programme in the State of Tamil Nadu', by Prof. D.K. Vaid, March 2002.
5. 'An Evaluative Study of Vocational Education Programme in Assam' by Dr. A. Palanivel *et al*, June 2002.
6. 'Evaluation of Implementation of the Vocational Education Programme in the State of Haryana' by Prof. D.K. Vaid *et al*, December 2002.
7. 'Implementation of Vocational Education Programme in Maharashtra: An Evaluation' by Prof. A.P. Verma *et al.*
8. 'Vocational Education Programme in Karnataka: Success Stories' by Dr. Mridula and Dr. A. Palanivel, June 2003.
9. 'Evaluation of Implementation of the Vocational Education Programme in the State of Punjab' by Dr. Balkar Singh and Prof. D.K. Vaid, September 2003.
10. 'Case Study of Implementation of Innovative Vocational Education Programme by Don Bosco Self-employment Research Institute, Howrah' by Dr. Sachchidananda Ray, September 2004.
11. 'Utilisation of Mandal Vocational Centres for Effective Operationalisation of Work Experience/ Pre-Vocational Education in Andhra Pradesh (Draft)' by Dr. Suniti Sanwal, 2004.
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Annexure I

NCERT's National Focus Group on 'Work and Education' (2004-05) Discussion Paper[#]

> "Our education has got to be revolutionised. The brain must be educated through the hand. If I were a poet, I could write poetry on the possibilities of the five fingers. Why should you think that the mind is everything and the hands and feet nothing? Those who do not train their hands, who go through the ordinary rut of education, lack 'music' in their life. All their faculties are not trained. Mere book knowledge does not interest the child so as to hold his attention fully. The brain gets weary of mere words, and the child's mind begins to wander. The hand does the things it ought not to do, the eye sees the things it ought not to see, the ear hears the things it ought not to hear, and they do not do, see or hear, respectively what they ought to. They are not taught to make the right choice and so their education often proves their ruin. An education which does not teach us to discriminate between good and bad, to assimilate the one and eschew the other is a misnomer."
>
> – Mahatma Gandhi
>
> Discussion with Teacher Trainees, *Harijan*, 18 February 1939*

In 1906, the Indian National Congress, then spearheading the Indian freedom struggle against the British empire, resolved that the time had arrived "for the people all over the country to take up the question of national education for boys and girls, and organise a system of education, literary, scientific and technical, suited to the requirements of the country, on national lines, and under national control, and directed towards the realisation of the national desiny." According to J. P. Naik (1979), Member-Secretary of the Education Commission (1964-66), this movement for a national system of education took two distinct forms during the freedom struggle:

> "(1) to attempt a conceptual clarification of the objectives, content, organisation and other related aspects of the national education system; and (2) to try out some experiments outside the official system based on this vision of national education."

Amongst several concerns that provided the framework for 'conceptual clarification', a major concern was regarding the tendency of the colonial system of education to reinforce the fragmentation of the society into (a) the so-called 'educated' people who not only denigrate productive manual work but also lack the necessary skills for the same and often have a parasitic relationship with the society; and (b) the vast majority of the people who work with their hands and produce wealth but are deprived of the benefits of formal education. The nationalist movement

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[#]*Prepared and presented by Prof. Anil Sadgopal, Chairperson, National Focus Group on 'Work and Education' at the first meeting held at NCERT, New Delhi, from 27-30 December 2004.*

[*]*The Collected Works of Mahatma Gandhi, Vol. 68, pp. 372-73.*

was committed to creating a system of education that will not promote this dichotomy between work and education and thus transform the paradigm on which colonial education was founded. The pre-independence period was witness to a host of experiments outside the official framework in order to gain experience in building an alternative system. The present Jadavpur University and the institutions set up by Tagore viz. Sriniketan, Shantiniketan and Vishva Bharati were amongst the trailblasers in this respect. Inspired by the non-cooperation movement (1921), thousands of young people quit schools and colleges of the colonial model in their search for alternatives. In response to this national call, institutions like Gujarat Vidyapeeth, Tilak Maharashtra Vidyapeeth, Kashi Vidyapeeth and Jamia Millia Islamia were set up where new ideas in education were experimented.

WORK AND EDUCATION

The National Education Conference held at Wardha, Maharashtra, in October 1937 under the leadership of Mahatma Gandhi represented a sort of culmination of this nation-wide debate on 'conceptual clarification' of the alternative educational paradigm that ought to shape the national system of education for independent India. Apart from the educationists and workers then engaged in this endeavour, the Conference was also attended by the Ministers of Education of seven elected provincial governments. The Conference deliberated upon Gandhiji's proposal of Basic Education which would make productive work the pedagogic basis of learning in schools. Learning through a cooperative process and making schools self-reliant through the income of the productive work were amongst the other key features of the original proposal. While addressing the Conference, Mahatma Gandhi stated:

> "What I am going to place before you today is *not about a vocation* that is going to be imparted alongside education. Now, I wish to say that whatever is taught to children, *all of it should be taught necessarily through the medium of a trade or a handicraft*. You may argue that, during the middle age, children were taught only trades (crafts) in our country. While I agree with this contention, but the proposition of imparting the whole of education through the medium of trades (crafts) was not considered in those days. A trade (craft) was taught only from the standpoint of a trade (craft). We aim at *developing the intellect also with the aid of a trade or a handicraft*. . . . . Therefore, it is my submission that, instead of merely teaching a trade or a handicraft, we may as well educate the children entirely through them. Look at *takli* (spindle) itself, for instance. The lesson of this *takli* will be the first lesson of our students through which they would be able to learn a substantial part of the history of cotton, Lancashire and the British empire. . . . . How does this *takli* work? What is its utility? And what are the strengths that lie within it? Thus the child learns all this in the midst of play. Through this he also acquires some knowledge of mathematics. When he is asked to count the number of cotton threads on *takli* and he is asked to report how many did he spin, it becomes possible to acquaint him step by step with good deal of mathematical knowledge through this process. And the beauty is that none of this becomes even a slight burden on his mind. The learner

does not even become aware that he is learning. While playing around and singing, he keeps on turning his *takli* and from this itself he learns a great deal."

– Excerpted from the address by Mahatma Gandhi
at the Wardha Education Conference, 22 October 1937
[Translated from Hindi, Annexure I, pp. vii-viii]

The Wardha Conference constituted a committee under the chairpersonship of Dr. Zakir Husain to evolve a curriculum of Basic Education (*Nai Talim*) on the basis of the principle of placing productive work in the form of a trade or craft at the centre of the educational process, the latter being selected keeping in mind the socio-cultural milieu of the children (see Annexure I). While accepting the Zakir Husain Committeee Report (1939), the Indian National Congress, at its meeting held at Haripura (Gujarat) the same year, resolved to build up a national system of education on the basis of three principles viz. (1) all children should receive 'free and compulsory' education for a minimum of seven years (later this was extended to eight years for the 6-14 age-group as recommended by CABE in 1944 and incorporated by the Constitution in the Article 45 for all children up to the age of 14 years); (2) the medium of education should be the mother tongue; and (3) this education be provided through the medium of some productive trade or handicraft and, to the extent possible, all other activities be built around this central craft, the latter being chosen in accordance with the conditions in which the child is placed. The Congress further resolved to constitute a body called Hindustani Talimi Sangh to promote this national system and also authorised Dr. Zakir Husain and Shri Aryanayakam to prepare a concrete programme of such education under the guidance of Mahatma Gandhi. Backed by such a clear-headed call for re-organising the nation's system of education, the seven provincial governments started setting up teacher training centres and opening schools to promote the Gandhian pedagogy of integrating the 'world of work' with the 'world of knowledge'. Recognising this spirit of the national movement, the report of CABE (1944) observed:

"Basic (Primary and Middle) education, envisaged by the Central Advisory Board, embodies many of the educational ideas contained in the original Wardha scheme, though it differs from it in certain important particulars. The main principle of *'learning through activity'* has been endorsed by educationists all over the world. At the lower stages the activity will take many forms, *leading gradually up to a basic craft or crafts suited to local conditions*. So far as possible *the whole of the curriculum will be harmonised with this general conception*. The *Three Rs by themselves can no longer be regarded as an adequate equipment for efficient citizenship*. The Board, however, are unable to endorse the view that education at any stage and particularly in the lowest stages can or should be expected to pay for itself through the sale of articles produced by the pupils. The most which can be expected in this respect is that sales should cover the cost of the additional materials and equipment required for practical work."

– Report by the CABE, January 1944
Chapter 1, Section 3

Note: Admittedly, there is an apparent confusion in the above CABE Report that is reflected in the reference to 'learning through activity'. When the pedagogic concept of 'learning through productive work' or 'learning through craft' is replaced by 'learning through activity', it would normally imply 'work without its context of orientation towards production'. The notion of 'decontextualised activity' is definitely not productive work. Perhaps this is the reason why the CABE report talks of activity taking many forms at the lower stages 'leading gradually up to a basic craft or crafts' instead of 'learning through craft or crafts'. However, this ambiguity is more than taken care of when one reads the same report later on its computation of costs involved in teacher education for Basic Education, as elaborated below.

While formulating a plan of teacher education and working out the costs involved for the same for fulfilling the programme of 'free and compulsory' elementary education, CABE (1944) recognised the significance of the new curricular principles in the following words:

> "An all-round improvement in the standard of teaching is all the more necessary because *Basic Education in view of its emphasis on craft work and the correlation of other subjects therewith* demands a high level of teaching skill, if it is to be really successful."
>
> – Report by the CABE, January 1944
> Chapter 1, Section 4

The complete set of recommendations of CABE (1944) with respect to incorporation of Basic Education's curricular and pedagogic ideas into the national system of education on the eve of India's independence may be seen in Annexure II.

The Education Commission (1964-66) attempted to look at the issue of integration of the 'world of work' with the 'world of knowledge' as part of its perspective of viewing education as an instrument of social, economic and cultural transformation (see Chapter I of the Commission's Report). Its Report contended that an important dimension of the endeavour "to relate it [education] to the life, needs and aspirations of the people" is, among others, the relationship between *education and productivity* (Section 1.20). It was in this context that the Commission recommended that "work-experience should be introduced as an integral part of all education" and defined it as "participation in productive work in the school, in the home, in a workshop, on a farm, in a factory or in any other productive situation" (Section 1.25). While *clearly distinguishing between work-experience in education and vocationalisation of education (or, for that matter, vocational education)*, the Commission stated:

> "Work-experience is thus *a method of integrating education with work. This is not only possible but essential in modern societies which adopt science-based technology*. In all traditional societies, an antithesis between education and work is usually postulated . . . . . The need to provide some such corrective to the *over-academic nature of formal education* has been widely recognised. . . . . a revolutionary experiment was launched by Mahatma Gandhi in the form of basic education. The concept of work-experience is essentially similar. It may be described as *a redefinition of his educational thinking in terms of a society on the road to industrialisation*. . . . . In addition to being an effective educational tool, work-experience can, in our view, serve some other important purposes. It can help to make the distinction between intellectual

and manual work less marked as also the social stratification based on it. It could make the entry of youth into the world of work and employment easier by enabling them to adjust themselves to it. It could contribute to the increase of national productivity both by helping students to develop insights into productive processes and the use of science, and by generating in them the habit of hard and responsible work. And it might help social and national integration by strengthening the links between the individual and the community and by creating bonds of understanding between the educated persons and the masses."

– Report of the Education Commission (1964-66)
Sections 1.27-1.29

In the chapter on 'School Curriculum' (Chapter VIII), the report elaborates further on the concept of work-experience:

"We have recommended [earlier] that *work-experience*, which involves participation in some form of productive work under conditions approximating to those found in real life situations, should *be introduced as an integral part of education at all stages*. It will provide a *much-needed corrective to the extremely academic and bookish character of present school education*. . . . . In the lower classes of the primary school, work-experience may begin as simple handwork, the objective being to train children to make use of their hands and thereby *help their intellectual and emotional growth*. In the senior classes, it may take the form of learning a craft which *develops technical thinking and creative capacities* in the pupils. Even here, however, some work-experience can be provided in real life situations, such as work on the farms at the time of harvesting or sowing or in a family production unit, and opportunities of this kind of activity should be utilised to the maximum extent possible. . . . . At the higher secondary stage, where the students will be more mature, and their numbers will be comparatively smaller, work-experience should be made available in school workshops and also on farms and in industrial or commercial establishments."

– Report of the Education Commission (1964-66)
Sections 8.72-8.73

Comparing its proposal of work-experience with Basic Education, the Commission observed:

"We pointed out earlier that the concept of work-experience is closely related to the philosophy underlying basic education. . . . . If in practice basic education has become largely frozen around certain crafts, there is no denying the fact that it always stressed the vital principle of relating education to productivity. What is now needed is *a reorientation of the basic education programme to the needs of a society that has to be transformed with the help of science and technology*. In other words, *work-experience must be forward looking in keeping with the character of the new social order*."

– Report of the Education Commission (1964-66)
Section 8.75

Education Commission's perspective on Mahatma Gandhi's proposal on Basic Education and its place in the school curriculum is elaborated in Annexure III (Sections 8.105-8.110).

The Commission's views on the concept of work-experience and Basic Education call for three observations:

1. The rationale offered by the Commission for including work-experience as an integral part of all education in Section 1.27 (see Annexure III, not excerpted here) needs a critical examination. The underlying premise seems to be that, as the traditional society undergoes 'modernisation', the "traditional resistance of educated persons to engage themselves in productive work tends to disappear" and the "educated person thus becomes an important source of production and the uneducated person, an unproductive burden on society". In view of the so-called 'modernisation' that has taken place in India since independence and the more recent impact of globalisation and market forces on social development, there is adequate ground for questioning the validity of this premise. Although this debate is critical to the pedagogy of relating work with the learning process, it is not the focus of our present inquiry.[1]
2. The Commission seems to have taken a rather limited view of the significance of placing productive work at the centre of the learning process. Although the original proposal of Basic Education emphasised the pedagogic dimension of relating work with knowledge, *Nai Talim* was much more than merely a pedagogic exercise. Fagg (2002) cites three commentators on Gandhiji's educational ideas as follows (pp. 15-16):

> "[craft work] incidentally makes the boy more 'peaceful' and assiduous; being productive work, it relates the boy's activity to his environment and the society in which he lives; and, lastly, by imparting instruction through some serious craft not only the boy's practical intelligence is trained but he gets the conception of labour as a moral force. (N.R. Malkani, *Harijan* 5:332)"
>
> "A sharp intellect can be cultivated through other methods, but then it may not be socially developed. On the other hand, an intellect developed through the medium of socially useful manual labour must of necessity become an instrument of service. Mere intellectual training ordinarily makes a child individualistic. But education through work and activities brings him in contact with other children in cooperation with whom he has to work. (Avinashil-ingam, 1964, 63)"
>
> "From the beginning [Gandhi] had seen that the vigorous manual work to meet the needs of a family or community was the basis both of physical health and of an ethic of generous sharing and mutual respect. (Sykes, 1988, 34)"

Gandhiji himself elaborates upon his conception of Basic Education "as the spear-head of a silent social revolution fraught with the most far-reaching consequences". While planning the curriculum of today's schools, we need to be aware of the *ethical, political and social dimensions of*

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[1] *A full session on this issue will be devoted at the first meeting of the National Focus Group on "Work and Education" on 27 December 2004 with a view to build the essential perspective in which the proposal for curricular transformation will be evolved.*

pedagogic integration of work with the learning process. Both Sykes (1988) and Fagg (2002) deal with these dimensions of *Nai Talim* extensively.[2]

3. The Commission appears to be rather hesitant in unambiguously acknowledging the pedagogic relationship between the 'world of work' and the 'world of knowledge' as an *essential (and also universal)* element of the curriculum. Its use of the phrase "*correlation* of the curriculum with the productive activity and the physical and social environment (Annexure III, Section 8.105)" falls short of the holistic vision of learning that emerges when one reads Gandhiji's or Zakir Husain Committee's vivid descriptions of learning languages (with emphasis on articulation), mathematics, science, environment, history, geography or civics from *takli*, carpentry, farming or other contemporary tools of production (see Sykes, 1988, for a philosophical, socio-political and pedagogical treatment of this subject). We may consider the proposition that at least a part of the problem in Commission's 'hesitant' conception of work-experience arises from the reduction of this revolutionary idea as a programme of *merely* 'Education and Productivity', rather than viewing it as a programme of *reorientation of educational aims and curricular transformation*. This might also explain why the Commission, while being appropriately concerned about the rural-urban differences relating to work-experience, recommends introduction of "programmes oriented to industry and simple technology . . . . . in *a fair proportion* of rural schools" and "gardening in *as many urban schools as possible* and . . . . . experience in farm work to *at least a small proportion* of urban pupils. (Section 8.76)" [emphasis added] In spite of its otherwise sensible reference to "forward-looking type of work-experience for every child", the Commission contradicts itself by recommending that "a beginning should be made immediately *in selected schools*" and then steps be taken to increase the facilities "*as rapidly as possible*. (Section 8.77)" The Report does not tell us how this partial and gradual introduction will be reflected in the teacher education programmes, preparation of learning materials and the student evaluation and examination system. Nor does such a graded approach help build a vision of a common *curricular framework*[3], as its implementation is apparently made contingent upon the State's willingness to make adequate resources available, rather than a matter of national priority for

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[2] Both of these studies attempt a critical view and philosophical elaboration of the Gandhian conception of education. Effort is being made to make these available to the members of the National Focus Group.

[3] It is imperative that we distinguish curriculum framework from curriculum and syllabus and not use them as synonyms. The latter two can be regional and/or state-specific as long as they broadly follow the national curriculum framework, as also specified in 1986 policy (NPE-1986, Sections 3.2-3.4); there is full provision of flexibility in curricula and syllabi provided a 'common core' is retained (NPE-1986, Section 3.4). The policy further provides for contextual text books and other learning materials as well as plural learning processes that would reflect the rich geo-cultural diversity of the country. In light of this policy framework, it would be worthwhile to investigate how and why the curricula, syllabi, textbooks and the learning process have come to acquire rigidity and are, by and large, alienated from local socio-economic and cultural milieu. The pre-dominant influence of the evaluation parameters and the examination system in enforcing rigidity and promoting uniformity, in violation of the curricular principles as well as the policy framework*, also needs to be studied. In this context, the Acharya Ramamurti Committee Report (GoI, 1990) and the Yash Pal Committee Report (GoI, 1993) will be particularly helpful.*

curricular transformation in the *entire* school system. Also, there is plenty of evidence from the history of experiments in education in India (including *Nai Talim* and Tagore's *Sriiniketan*) that tells us that any partial introduction of a new idea, howsoever beautiful it might be, in *selected* schools is never accepted by the parents as they feel insecure about their children who are bound to be alienated from the mainstream.[4] It would be worthwhile inquiring whether the nation's failure in making work-experience a pedagogic basis of learning in the school curriculum, almost four decades after the Commission's recommendations, is a consequence of this hesitant approach recommended by the Commission itself.

The above hesitation in building a new curricular vision for the nation is reflected in the 'soft' policy measure included in National Policy on Education-1968 as is cited below:

> "The school and the community should be brought closer through suitable programmes of mutual service and support. Work-experience and national service, including participation in meaningful and challenging programmes of community service and national reconstruction, should accordingly become an integral part of education. Emphasis in these programmes should be on self-help, character formation and on developing a sense of social commitment."
>
> – National Policy on Education-1968,
> Section 4 (6)

The above statement is more like a normative expression than a declaration of a national resolve in the State policy. Now, look at the National Policy on Education-1986 as also in its modified version of 1992 wherein this lack of conviction grows into confusion:

> "Work-experience, viewed as purposive and meaningful manual work, organised as an integral part of the learning process and resulting in either goods or services useful to the community, is considered as an essential component at all stages of education, to be provided through well-structured and graded programmes. It would comprise activities in accord with the interests, abilities and needs of students, the level of skills and knowledge to be upgraded with the stages of education. This experience would be helpful on his entry into the workforce. Pre-vocational programmes provided at the lower secondary stage will also facilitate the choice of the vocational course at the higher secondary stage."
>
> – National Policy on Education-1986 (As modified in 1992),
> Section 8.14

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[4]*The most recent example of this phenomenon is the well-known Hoshangabad Science Teaching Programme (HSTP) which won nation-wide recognition for making the entire science curriculum activity-based, inquiry-oriented and contextual at upper primary level. It was implemented in more than 1,000 schools (mostly government and government-aided) of 14 districts of Madhya Pradesh during 1972-2002 with full involvement of the government system. Yet, it never became the policy of the state government to teach science in a scientific manner through contextual activities and experiments in the* entire *state school system. The result of this half-hearted approach eventually created conditions for destabilisation of the programme and gave the state government an opportunity to take the retrogressive step of closing it in July 2002. The result: these 1,000 schools with more than one lakh students reverted back to learning science by rote like the rest of the schools in the country. This experience is clear evidence of lack of conviction and clarity at the level of policy making.*

Let us recall here that the notion of work-experience was viewed in both Basic Education and Education Commission's Report as a universal pedagogic element in the curriculum aimed at social change. Instead of emphasising this critical dimension of work-experience, the policy is more concerned with student's "entry into the workforce" and pre-vocational programmes to "facilitate the choice of the vocational course at the higher secondary stage." The underlying premise seems to be that work-experience is meant for building the workforce and vocational courses, rather than for providing a powerful medium for acquisition of socially relevant knowledge and building up creative and purposeful citizens. In this attempt at what amounts to 'reductionism', the policy framework of work experience also ends up ignoring the relationship of this critical curricular dimension in enriching the social relevance of education and, thereby, also its quality.[5]

This concern is being articulated here precisely because the prevailing curricula in various school systems neither reflect Basic Education's vision of interweaving work into education nor Education Commission's conception of work-experience. The radical vision today stands both marginalised and trivialised in practice. Ironically, the three curriculum frameworks designed by NCERT successively in 1975, 1988 and 2000 give a place of prominence to work-related education.[6] Yet, even the CBSE affiliated schools, where the NCERT framework is implemented entirely, hardly reflect the original vision. Further, in popular perception as also in academic discourse, work-experience is often confused with vocational education[7], something which Gandhiji, as quoted above, warned us about in his address to the Wardha Conference in 1937!

COMMUNITY WORK AND SOCIAL SERVICE

A commentary on the place of community work and social service in the school curriculum is in order at this juncture. This aspect of school curriculum had a significant place in the conceptualisation of

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[5]It may be noted here that there is an increasing tendency in the academic discourse to de-link the issue of the quality of education from that of its social relevance. This tendency has begun to impact upon field practice, planning and research especially since the two policy changes were made viz. (a) the entry of international funding of primary education in India from 1993-94 onwards; and (b) the relatively more recent phenomenon of the government giving space to the private corporations and their Foundations/Trusts (particularly those related to ICT industry) and NGOs in defining and determining the pedagogic quality of education *in the name of public-private partnership (see Sarva Shiksha Abhiyan framework, GoI, 2001 and Education For All, GoI 2003). The issue of the relationship between the 'world of work' and the 'world of knowledge' in the emerging discourse stands either marginalised or trivialised as one of* merely *training students in vocational skills and preparation of work force for the market. It must be clarified that, while the objective of skill development is integral to education, the holistic purpose of education related to social relevance and pedagogic quality of education can't be allowed to become subservient to market. Unless checked consciously, this tendency will have an adverse impact, as brought out in several studies and NSS surveys, on the national goal of universalising education as no child will devote 8 or 10 years of her life in an educational programme which lacks both social relevance and pedagogic quality.*

[6]A careful and critical comparison needs to be made by the National Focus Group of the philosophical and pedagogic place of work in the curriculum as conceptualised by NCERT in its three successive curriculum frameworks viz. in 1975, 1988 and 2000. This study will also reveal how NCERT's vision was being influenced by the changing political conditions and the shift in the economic paradigm since the onset of the recent phase of globalisation and the impact of the neo-liberal ideology on educational thinking in India.

[7]The issue of vocational education will be briefly examined in the following section of this paper as also in a separate position paper to be presented by PSSCIVE at the first meeting of the National Focus Group on 27 December 2004.

Nai Talim by the Zakir Husain Committee (1939) and was seen in relationship with work-centred education. The Education Commission (1964-66) wrote:

> "The present educational system . . . . . is also responsible for increasing the gulf between the educated and the uneducated classes, between the intelligentsia and the masses. . . . . Our traditional 'elite' as a whole – with some noble exceptions – had no close ties with the masses, and the new 'elite' created by modern education also remained largely aloof from the people, except during the struggle for freedom under Mahatma Gandhi when he was able to inspire large numbers of educated and even well-to-do persons to identify themselves with the interests of the masses and the country as a whole. But from the time the struggle for freedom came to an end with the attainment of Independence, they have again tended to move away from the people. This is a great danger and, with a view to meeting it, suitable programmes to help in the evolution of a well-knit and united nation have to be devised. . . . . For this purpose, we recommend that some form of social and national service should be made obligatory for all students and should form an integral part of education at all stages. This can become an instrument to build character, improve discipline, inculcate a faith in the dignity of manual labour and develop a sense of social responsibility."
>
> – Report of the Education Commission (1964-66),
> Sections 1.39-1.40

For full elaboration of the Commission's conceptualisation of the place of community work and social service, see Annexure IV. The Ishwarbhai Patel Committee Report (1977) reviewed NCERT's document entitled 'The Curriculum for the Ten-Year School – A Framework' published in 1975 and observed that the 10-year curriculum should be capable of (only a partial list is excerpted here):

- moulding the learner after the image of citizen as visualised in the Constitution;
- releasing learning from its bookishness and elitist character so as to relate it closely to socially productive manual work and the socio-economic situation of the country;
- emphasising the qualities of simplicity, integrity, tolerance and cooperation in all aspects of life; and
- being available to every individual . . . . . in such a way that working and learning can always be combined.

> – Report of the Review Committee
> on "The Curriculum for the Ten-Year School" (1977), Chapter 2, p. 6.

While discussing the place of "purposive, meaningful, manual work" in the curriculum and preferring to term it as Socially Useful Productive Work (SUPW), the Ishwarbhai Patel Committee observed:

> "It will be recalled that programmes of Work Experience were introduced as a result of the recommendations of the Kothari Commission with the objectives of relating education to productivity. These programmes, however, *lacked the component of social usefulness and, in practice, were*

not even casually correlated to other subject areas. The purpose of demarcating a distinct curricular area as Socially Useful Productive Work is *to emphasise the principle that education should be work-centred* . . . . . The aim of this curricular area is *to provide children with opportunities of participating in social and economic activities inside and outside the classroom*, enabling them to understand scientific principles and processes involved in different types of work and in the setting in which they are found in the physical and social environment. . ... . The *component of Social Service in the curriculum is allied to Socially Useful Productive Work* . . . . .[it] *must not be confined to the four walls of the school, nor can they be provided by the teacher only*. Programmes should, therefore, be so planned and implemented that the local community, community development organisations and governmental agencies participate in them and cooperate with the school."

– Report of the Review Committee
on "The Curriculum for the Ten-Year School" (1977), Chapter 3, pp. 10-11.

The above relationship between work-centred education, on the one hand, and community work and social service, on the other, as conceived by the Ishwarbhai Patel Committee, laid the basis for the Committee to propose the following six 'work situations' in which SUPW needs to be conducted:

i. health and hygiene;
ii. food;
iii. shelter;
iv. clothing;
v. culture and recreation; and
vi. community work and social service.

[Notes: (i) The placement of 'culture and recreation' and 'community work and social service' in the same category as the other four work situations (which are pre-dominantly centred around productive work) is probably itself a source of distortion of SUPW in schools, the essential linkage of these two parts of SUPW notwithstanding. (ii) The notion of community work and social service, as it is perceived in Indian society as also in the school system, is basically bourgeois and patronising in character. This misconception has been the basis of planning a range of programmes where the children neither learn anything useful nor have the satisfaction of having done any creative work. Essentially, these programmes, including NSS, have been directionless. What is required instead is a curricular design of community work where the objective is to acquire knowledge – in science, social sciences, mathematics, languages and especially about society as a whole – and learn to work with people and be sensitive to their problems, rather than solving people's problems or teaching them something; such an attitude can be quite presumptious on the part of the school system. The pedagogy of "learning from the people" can be the most rewarding experience for students, teachers and the entire school. (iii) The school system is ill designed to undertake purposive, meaningful and productive work and community activities. Its design of curriculum focused on learning from textbooks, fragmented view of knowledge, timetables, periods, evaluation parameters, examination system, value framework and lack of respect for the sources of knowledge outside the classroom are amongst the

factors that become obstacles in the path of transformation. Changes are required, therefore, at the policy level to bring about epistemic, pedagogic and structural re-designing of the whole system. (iv) A general misconception about the system needs to be flagged. When a programme or a new idea fails in education, the usual diagnosis is to blame its lackadaisical implementation. This diagnosis is based on the premise that the theoretical design of the programme, the structures of the school system and the broader policies are flawless. This premise is to be questioned before further progress can be made. For more than a century, commissions and committees are recommending certain changes and the policies are made to fulfill the recommendations. The persistence of failure must make us sit up and ask ourselves whether something is not wrong at a more fundamental level. There are studies now available which show that, more often than not, the policies and the programme designs themselves are flawed and the failure is a result of "efficient and faithful implementation of flawed policies." This observation is being made in the hope that it might help us in understanding why otherwise sensible ideas have not worked in our country.]

The concept of SUPW, as proposed by the Ishwarbhai Patel Committee, was fully endorsed by the National Review Committee on Higher Secondary Education with Special Reference to Vocationalisation (Adiseshiah Committee, 1978) for the +2 stage. Inspite of this conceptual clarity, the dimensions of social relevance and work-centredness of the education system remained weak. While getting ready for the formulation of a new education policy in 1985, the Government of India issued its perspective document on policy entitled, 'The Challenge of Education – A Policy Perspective' which observes:

"A great deal has already been said about the gap between education and educational institutions on the one hand, and society on the other. Taking educational institutions as entities by themselves, it is observed that these are generally oblivious of and unconcerned with the problems, potentials and characteristics of their environment. This has resulted in lack of orientation and dysfunctionality of research and educational content, lack of support from the environment and the isolation of the teachers and students from the realities of life and the world of work. On the other hand, the community around these institutions is also a great loser since it is denied the opportunity of enriching itself and finding solutions to its problems through the intervention and support of a technically knowledgeable and mentally and physically agile group of people. Lack of social relevance has serious consequences for the students emerging from educational institutions. They are unable to acquire insights and skills relevant either to socio-cultural processes, or to the world of employment and work."

– 'The Challenge of Education – A Policy Perspective', GoI, 1985
Sections 4.94-4.95

Probing the causes of this lack of social relevance, the policy document further commented:

"Socially Useful Productive Programmes, National Service Scheme (NSS) and other similar initiatives have not yielded the desired results, largely because the character of examinations determines the curricular content and methodologies of education and also circumscribes the attitude of students. Over the years, the examinations have become memory-based, highly routinised and unconcerned

with the evaluation of the total personality, attitudes and values, and unable [?] to the mental ability and physical dexterity of students."

– The Challenge of Education – A Policy Perspective, GoI, 1985
Sections 4.96 & 4.98

It is evident that the policy makers seemed to know the alarming impact of the examination system on the relevance and quality of education. The consequent 1986 policy reflected this concern and resolved "to recast the examination system so as to ensure a method of assessment that is a valid and reliable measure of student development and a powerful instrument for improving teaching and learning" (NPE-1986, Sections 8.23). Yet, the colonial character of the examination system hardly changed; it may have become worse. The policy perspective document of 1985 made the following perceptive but apparently helpless observations:

"Lack of relevance of educational content to life situations is one of the reasons for the majority of the people, including some of the intellectuals, having apathetic attitude to education. This is why the educational processes are not getting much support from opinion leaders, planners, farmers, industrialists and, what is worse, even from the intended beneficiaries. . . . . Initially, upto the early sixties, great expectation that people had from education found expression in their active contribution in the form of physical, material and financial resources to construct and equip school buildings and social education centres etc. . . . . [but] the system as a whole failed to re-evaluate and re-orient either its objectives or its methods of functioning. It moved away from direct contact and involvement with society and opted for wholesale bureaucratization to secure certain privileges and escape not only from the arbitrariness of the management but also from accountability to the community."

– 'The Challenge of Education – A Policy Perspective', GoI, 1985,
Section 4.99

Inspite of a detailed Programme of Action (1986), approved by the Parliament, that had detailed chapters on each of the above concerns, the system did not respond. In 1990, while undertaking a comprehensive review of the 1986 policy, the Acharya Ramamurti Report observed:

"The Education Commission, 1964–66, identified work experience and social service as essential elements of purposeful education. . . . . Work experience which is to develop creative skills, however, has *degenerated into trivial activities, most often extra-curricular, the social dimension essential for the concept missing altogether*. . . . . The problem faced by school education in today's context is *near exclusive emphasis on knowledge through theory alone*. Even when theory is taught, its teaching remains barren and partial due to the *pedagogic constraint of divorcing knowledge from practice*. The accent is to be on *integration of theoretical knowledge with skills, attitudes, productive work, social responsibility, and creativity*. Education is to be linked with the emerging problems of the world of work. For this purpose, the method of project work should be an integral feature of the educational process."

– Committee for Review of National Policy on Education, 1986 (1990)
Sections 8.6.0 & 8.8.3

The Acharya Ramamurti Review Committee recommended a range of modifications that were required in the policy and the Programme of Action in order to break the isolation of the education system from its political, socio-cultural and economic contexts, especially relating to infrastructural, accountability and pedagogic issues (see Annexure V). Most of these were not accepted when the policy was modified in 1992. The consequence of this rigidity in policy making is the continuing gap between the 'world of work' and the 'world of knowledge' and lack of social relevance.

Vocational Education

The PSS Central Institute of Vocational Education (NCERT) is going to present a position paper (including a critical review) on this subject at the first meeting of the National Focus Group on the basis of their more than a decade of work in this field around the country. In addition, a concept paper will be presented on "Livelihoods, Development, Technology and Economic Scenario: Aspirations of the People and Expectations from Education". In view of this, analysis of this critically important aspect of "Work and Education" is being deferred. It would help if the Annexure V (Chapter on 'Education and Right to Work') is looked at before the meeting.

Bhopal – Anil Sadgopal
23 December 2004

Annexures

Hindustani Talimi Sangh, *Aath Salon ka Sampoorna Shikshakram*, Sewagram, Wardha, Maharashtra, 1957, pp. i-xvi; 1–22.

Govt. of India, *Post–War Educational Development in India: Report by the Central Advisory Board of Education*, Bureau of Education, India, January 1944, pp. 1-14 (Introduction and Chapter I); 19-27 (Chapter III); 36–48 (Chapter V).

Govt. of India, *Education and National Development: Report of the Education Commission 1964–66*, NCERT, New Delhi, 1971, Sections 1.16-1.33 (The Education Revolution: Relating Education to the Life, Needs and Aspirations of the People: Education and Productivity); 8.72–8.78 (Work-experience); 8.105–8.110 (The New Curriculum and Basic Education); 8S.01 Supplementary Note I: General Programmes of Work-experience); 8S.02–8S.37 (Supplementary Note II: General Programmes of Work-experience in USSR); 14.50–14.51 (Agricultural Education As Part of General Education).

Govt. of India, *Education and National Development: Report of the Education Commission 1964-66*, NCERT, New Delhi, 1971, Sections 1.39–1.48 (The Education Revolution: Relating Education to the Life, Needs and Aspirations of the People: Education and Social and National Integration); 8.79–8.87 (Social Service).

Govt. of India, 'Towards an Enlightened and Humane Society', Report of the Committee for Review of National Policy on Education, 1986, Ministry of HRD, New Delhi, December 1990; Chapters 4D (Common School System), 8 (Education and Right to Work), 12 (Content and Process of Education) and 14 (Decentralisation and Participative Management).

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Annexure II

Vocational Education and Training in China
(A brief note based on NCVER Report 2002)
S.Z. Haider*

One of the main educational objectives of any nation is to develop a system of education that will allow its people to develop the work and life skills and talents that they will require throughout life. To do this it must ensure that there are strong linkages between the various sectors of education so individuals may move between the sectors and continue to build on the knowledge and skills that they have previously acquired.

Such linkages are necessary in Vocational Education and Training System also.

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Introduction

In response to economic reform (1980) China has adopted a policy of large-scale development of its Vocational Education and Training (VET) system. This system consists of three levels of vocational education : elementary, secondary and tertiary. There are linkages between all three levels of VET.

[The term Vocational Education and Training used here has the same meaning as the term "Technical and Vocational Education and Training (TVET) that is used by UNESCO].

Vocational Education

The aim of 'Vocational Education' is to enable students to undertake studies of technology and related disciplines and to acquire practical skills as well as knowledge related to an occupation.

China's Vocational education system includes before-job (commencement) education, after-job (commencement) education and change-of-job education.

Vocational Institutions

Vocational Education is provided at elementary, secondary and tertiary levels of education.

(a) **Elementary Vocational Education**

Elementary vocational education schools (junior high schools) enroll students passing out from primary schools. The Vocational Education programmes in these schools is of three to four years. It aims to produce junior-level skilled workers, farmers and personnel in trades and commerce and other relevant fields.

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(b) **Secondary Vocational Education**

Secondary Vocational Education offer vocational courses of three to four years duration and aims to produce middle-level skilled workers having comprehensive occupational skills for Industrial, Service and other relevant sectors. The Secondary Vocational Education includes secondary specialised schools, vocational senior schools and skilled worker's schools.

(c) **Higher Vocational Education**

Higher Vocation Education offers vocational courses at tertiary level in Vocational Universities, Vocational and Technical Colleges, Higher-level technology specialised schools. The courses are generally of two to three years and aims to produce senior-level professional skilled personnel for production, construction, management and service sectors.

Target Students

- Elementary Vocational Schools mainly enroll graduates from six-year primary schools.
- Secondary Vocational Schools mainly enroll students who have completed the nine-year compulsory education (junior secondary school graduates or graduates from vocational junior secondary schools).
- Higher Vocational Institutions mainly enroll students who have completed senior secondary education (that is senior high school graduates or graduates from secondary vocational schools).

Linkages between Secondary and Higher Vocational Education and Training

In the year 1980, the Chinese Government made suggestions for the development of formal linkages between secondary and tertiary VET.

In 1985, Chinese Government stipulated on its Policy document:

> 'The development of Vocational and technical education should focus on Secondary Vocational and Technical Education. At the same time…… [it should also]……..actively develop higher Vocational and technical education colleges and institutes, [and] give priority to the relevant secondary VET school graduates and on-the-job personnel who have practical experience in specialised field and who are academically qualified for enrolment.
>
> [The objective was also to] gradually establish a VET system which ranged from elementary to senior levels……. compromised a complete set of professions and trades'.

Development of Secondary VET (1980)

In the early 1980s, China's Secondary VET was based on weak formulation. Each year only very small numbers of general senior high school graduates went from higher education, while the great majority [Several millions] sought employment in the labour market. However, these graduates seeking employment did not have the specialised knowledge and skills required by industry or trades. At the same time, all industry and trade sectors were badly in need of skilled

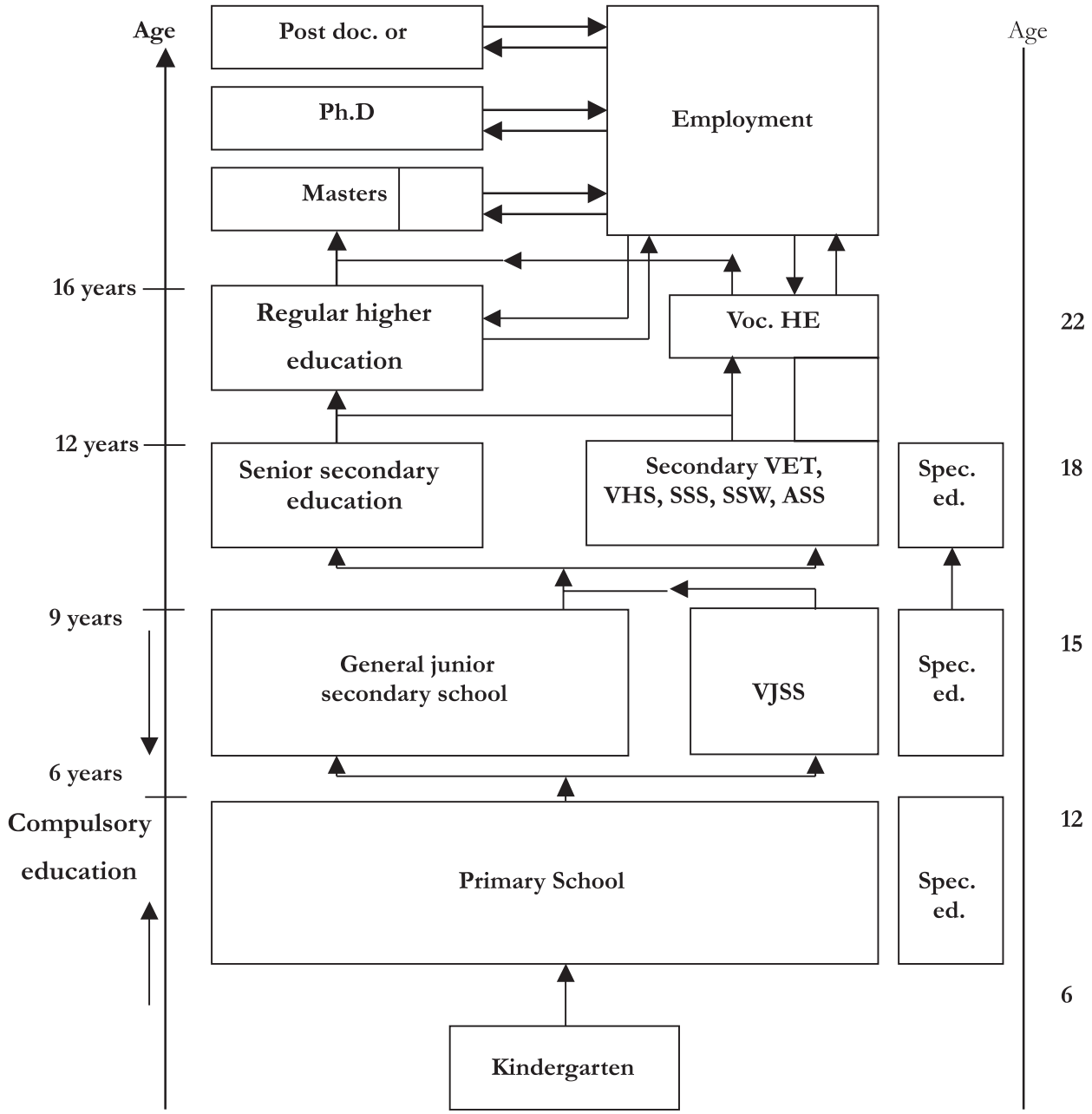

Figure 1: Pathways to qualifications and employment

Note: VHS: Vocational Higher Secondary School; SSS: Specialised Secondary School; SSW: Secondary Skilled Worker School; ASS: Adult Specialised School; VJSS: Vocational Junior Secondary School; Voc. HE: Vocational Higher Education; Spec. ed: Special Education.

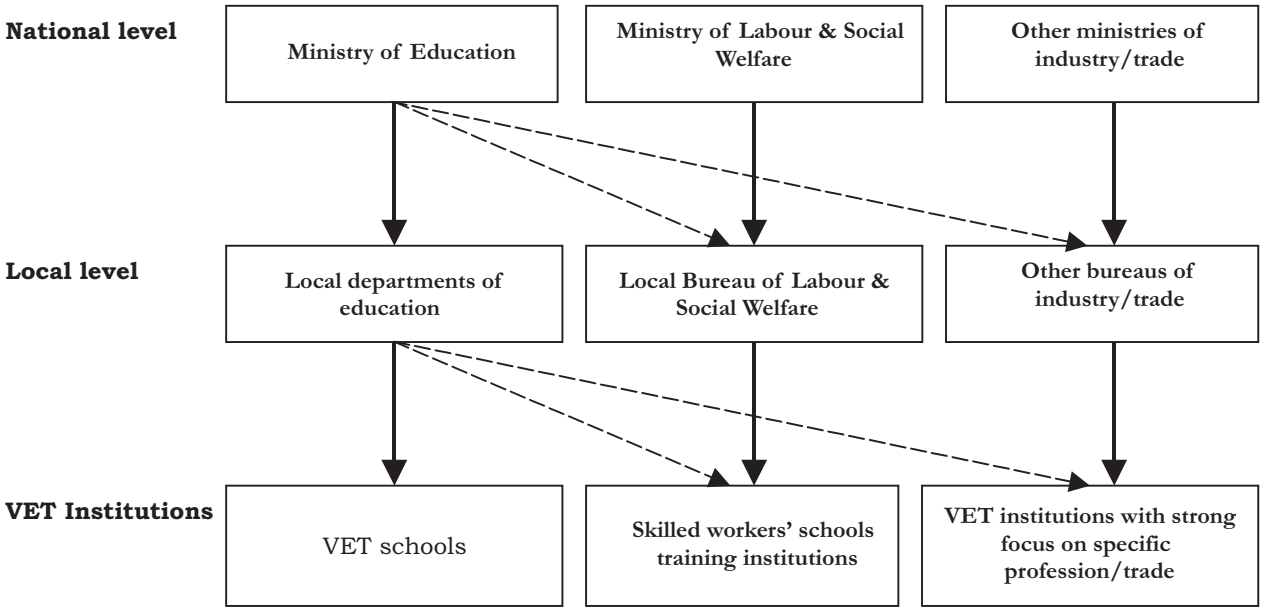

Figure 2: Administration of the Chinese VET System

workers. The situation adversely affected the efficiency of production and services in industry/trades.

In view of the situation, Chinese Government issued its 'Report in Structural Reform in Secondary Vocational and Technical Education' in 1980. The report recommends:

> "The structural reforms of secondary education were to mainly focus on the stage of senior secondary education…….. [and that]..…..the principle for the simultaneous development of general education and vocational and technical education should be adopted. Some general senior high schools can become vocational (technical) schools, vocational high schools or agricultural schools. The percentage students in all types of vocational schools in the whole senior secondary education were to be greatly increased through adjustments and reforms".

Importance of reforming VET at the senior secondary level was realised due to the fact that the skilled standards of the potential workers were lacking as also due to traditionally low status applying to vocational education.

This realisation further resulted into the following announcement : [1985]

> "The construction of modernisation not only requires senior science and technology experts, but it is also in urgent need of millions of intermediate and junior level technical personnel, management personnel and skilled workers who have received a good vocational and technical education, as well as urban and rural labourers who have received good vocational training. [Therefore, we] must take all effective measure to change the backward nature of vocational education and strive for the strong development of vocational and technical education."

The decision also aimed to have, within five years, all types of senior secondary VET schools in more areas and regions enrolling equal members of students as general senior high schools.

Within about ten years of the 'decision', another series of policy documents was issued. These included

the 'Decision to Strive for the development of vocational and technical education in 1991' and 'The outlines for Chinese educational reform and development' in 1993. Although these documents discussed many areas of VET reforms and development, the development of secondary VET comprised the major focus of attention.

Development of Higher Vocational Education [1994]

By 1994, development of higher vocational education had started. A number of Vocational Universities were established as also a large number of secondary specialised schools. (These had vocational higher education characteristics). The development of higher vocational education got further boost with the implementation of economic reforms and open-door policy as this increased the demand on skill standards required of the Chinese work force.

These developments made the government realise the need to develop linkages between different segments of VET systems. Various measures and policy initiative were taken to develop pathways between senior vocational education at higher vocational education.

At present higher VET admits mainly two type of student. One group comprises graduated from secondary VET schools and the other comprises graduates from general senior high schools.

The linkages created between secondary and higher VET plays an important role in further development of secondary VET.

Lessons to be drawn

In view of the following:

- Large number of student leave schools at different stages to join the work force.
- They do not have skills to perform any job.
- They do not have access to Vocational Education and Training Courses.
  (Many barriers – non availability of institutions, limited number of seats, limited number of trades, barrier due to entry qualification, where exists – they are terminal, no opportunity for career mobility).
- They suffer as they have to do 'menial jobs.'
- The quality of the work [services and goods which they provide] are of below standard.
- Majority of people in the country, cities small towns, villages depend upon them - get poor quality of services and goods for which they pay but do not have any choice.

- **Have Vocationally Educated and Trained Workforce.**
- **Have a Vocational Education System from Elementary Level to Higher Level with Built-in Pathways between them.**

Annexure III

Vocational Education in India: an Overview and Comments

S.Z. Haider*

'Development is a complex process. It is not essentially a matter of heightening the peak; it is one of lifting the base. Development involves the improvement in the performance, and increase in productivity of every individual. Individually, the addition so made may be small; but the number involved are so large that the sum total of their contribution will be substantial.

Vocationalisation of Education is not making reforms in our education programme but ushering in certain new forms; what is needed for achieving the task is not merely certain measures, but a movement'.

– National Working Group
(AICTE), 1985

It is desirable to mention at the outset that:

- We are using the two terms Vocationalisation of Education and Vocational Education synonymally. Education Commission (1964-66) had used these terms in the same way on pages 8(1.32) and 170(7.47). This is also indicated from the fact that in 7.47 under this title it has discussed various technical programmes running in ITIs and Polytechnics; and suggested expansion of these programmes when recommending need for expansion of vocational education.
- Vocational education is used here in the same context for which UNESCO's literature uses the term – 'Technical and Vocational Education' as comprehensive term referring to these aspects of the educational process involving in addition to general education the acquisition of practical skills, attitudes, understanding and knowledge related to occupations in various sectors of economic and social life.

A historical review of education in India reveals that vocational education has been an issue that had got attention of many Commissions and Committees for more than a century.

Pre-Independence Period

Lord Wood's Despatch (1854): For the first time this highlighted the need for introducing vocational education at the secondary school stage.

Indian Education Commission (Hunter, 1882) recommended introduction of practical subjects in secondary schools so as to divert them into different walks of life. However, no effective action was taken to implement the recommendation.

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Hartog Review Committee (1929) and the Sapru Enquiry Committee (1934), both recommended diversified courses at the secondary stage of education to enable the youths to prepare for commercial and industrial careers.

Wood-Abbot Advisory Committee (1936): It was on the basis of this Committee's report that an initiative was taken for establishment of polytechnics and to introduce Diploma level technical education.

Central Advisory Board of Education (Sargent Report, 1944): The report emphasised the need to introduce two streams, academic and technical — to provide good general education combined with some preparation in the later stages for careers to pursue on leaving schools.

The recommendations made by the Commissions and Committees set up in the pre-independence period seem to have made little impact on the educational processes – vis-à-vis Vocational Education. The secondary education scene continued to be, by and large, the same – (It was essentially the single track system that Independent India inherited in 1947 – Kulandaiswamy).

Post-Independence Period

The University Education Commission (Radhakrishnan, 1948) recommended a vocational bias in the intermediate courses, while stressing the emphasis on preparation for higher studies. It recommended diversification "to meet a variety of needs of our young men and women giving a vocational bias to their courses retaining at the same time their value in assistance of general education as preparation of university courses".

The Commission, however, made a very significant recommendation within the chapter on "Rural Universities". Since the focus was on establishing "Rural Universities", it attracted the academicians and policy makers who could manage to get some of these universities established; but forgot the built-in suggestion for establishing "Rural Schools" * and "Rural Colleges" (see annexure). A critical review will indicate a comprehensive system of education for rural India, right from school, colleges to universities was presented; the focus being reconstruction of an Indian village while presenting a vision for a Modern Indian Village. The recommendation does not mention explicitly about vocational education; but implicit within the recommendation there was enough emphasis for providing practical and livelihood skills in rural schools and colleges. (See Annexure I).

** The framework for Rural Schools as presented in the Report, was not implemented. On the other hand, we now have Navodaya Vidyalayas in rural setting, but with a different purpose. In spite of many discussions in JCVEs Standing Committee meetings vocational courses were not introduced in any Navodaya Vidyalayas. The Working Group for Xth Five Year Plan suggested that it should be mandatory for Central Schools and Navodaya Vidyalayas to introduce vocational courses.*

The Secondary Education Commission (Mudaliar 1952-53) recommended diversification of secondary education by creating multi-purpose schools to enable students to take up some vocations. It felt that at the end of the post-secondary stage, a student should be in a position to take up some vocation, if he/she so wishes. A chain of multi purpose schools was established in response to the recommendations in the country. As the reforms did not gain strength, the system reverted back into the earlier state.

Education Commission (Kothari, 1964-66)*: The Commission made a comprehensive study and analysis of the issues and problems facing the systems of education in India and laid significant emphasis on Vocational Education at X+ stage and also on Vocational Education at VIII+ stage.

The Commission recommended that the scope and range of vocational education as conducted in Technical High Schools, Agricultural High Schools, Junior Technical Schools, Multipurpose Schools, ITIs and such other Vocational institutions must be strengthened and enlarged.

The Commission's recommendations formed the basis for the policy formulation in 1968 and 1986 on Vocationalisation of School Education.

Some of the recommendations which require our attention (are given here for quick reference) to examine the actions taken later on based on them and to see what has been missed which has adversely affected the vocational education programme.

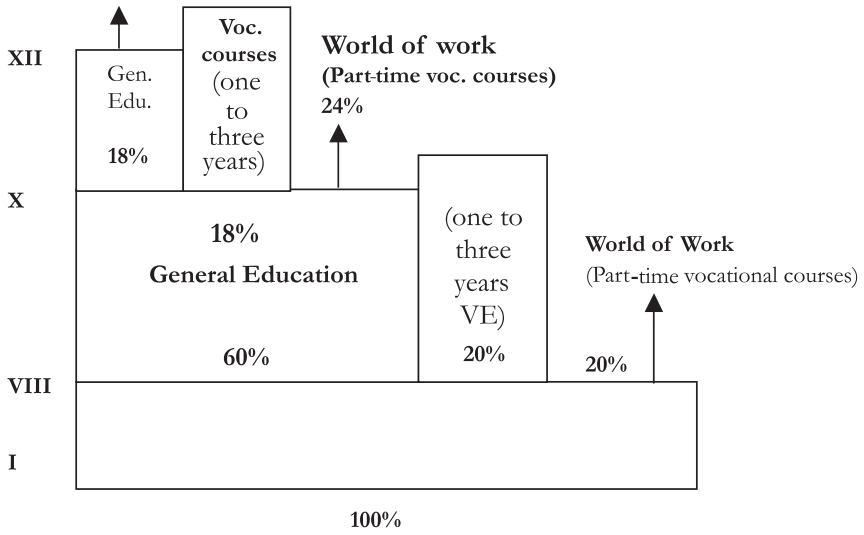
We visualise……..

- **A lower secondary** or high school stage of three to two years in general **or one to three years in vocational education.**
- A higher secondary stage of two years of general education or **one to three years of vocational education**.

As we visualise….

- **At the end of the primary stage**, a proportion of students will step off the school system and enter working life (about 20 per cent); some more will step off the stream of general education into different vocational courses where the duration may range from **one to three years** (about 20 per cent); and the remaining will continue further in the stream of general education (about 60 per cent);
- At the end of the ten years of school education, a proportion of students will step off the school system and enter working life (about 40 per cent); some more will step off the stream of general education and enter **vocational courses where duration will be one to three**

**It took ten years to introduce vocational courses initially; and another ten years to have a Centrally Sponsored Scheme (1988) to provide financial assistance to states to implement vocational education programme. The financial assistance was discontinued in 1997-99 and again in 2003-2004, resulting in a setback to vocational education programme in some states. This needs to be seen against the background where Kothari Commission and later Kulandaiswamy Committee recommended for liberal funding from Central Government.*



years (about 30 per cent); and the remaining will continue further in the stream of general education whose duration will be one and ultimately two years (about 30 per cent).

As per the recommendation of the Commission, 40 per cent of children enrolled in Standard I, need to be provided vocational courses after Class VIII (full time or part time) and similarly provision for vocational education need to be made for (18% + 24%) of students enrolled in Standard I, after Class X.

The Commission thus has laid significant emphasis on full-fledged vocational education in vocational institutions and vocational schools after VIII+ and X+. Emphasis is also on part-time vocational courses for those who join workforce. Only 18 per cent of the students who enroll in first standard were expected to move into the general stream at higher secondary level (+2).

NCERT Document (1976) on "Higher Secondary Education and its Vocationalisation": It made significant recommendations related to flexibility, semesterisation, nature of courses, changeover from one stream to another, time allocation and evaluation of courses.

Report of Working Group (Sabanayagam, 1977), on "Vocationalisation" (Ministry of Education, Government of India): recommended that Vocationalisation of Education should be structured so as to make it both terminal and continuing with opportunities for vertical and horizontal mobility, facilities for apprenticeship training, guidance and counseling and that recruitment policies be reformed to absorb vocationally qualified persons increasingly.

The group also recommended the setting up of National Council of Vocational Education and Training with corresponding State Councils.

Report of the Review Committee (Malcolm Adiseshiath 1978), on "Higher Secondary Education with special reference to Vocationalisation", stresses the need for foundation courses for the vocational stream and the need for flexibility in streaming of courses to choose the general stream, vocational stream or a mix in the spectrum. The committee identified various areas of vocational electives such as Agriculture and related vocations, Business and Office Management,

Para-Medical services and other general services. The committee also recommended modification of recruitment policies and the creation of facilities for proper vertical mobility for the vocationally qualified persons.

Report of the Working Group of the Planning Commission on "Secondary Education for the Seventh Plan" – states "Vocationalisation of higher secondary education is a national imperative for an effective correction in the supply system of human power to keep pace with the planned developmental activities". The group made following recommendations – (i) introduction of more courses of relevance to rural needs (ii) courses need not be terminal but vocationalisation should be of an adequate level (iii) recruitment policies must be modified keeping in view the vocational stream students and (iv) establish All-India and State Boards of Vocational Education.

Report of the National Working Group (constituted by All India Council for Technical Education on Vocationalisation of Education (Kulandaiswamy, 1985): recommended (i) the Central government should be responsible for policy guidelines, coordination and standardisation, provide guidelines for curriculum development, (ii) the Central government should give liberal financial assistance to achieve the target.

The group recommended that the term Vocational Education may be used in a broad sense to cover all educational programmes that aim at job orientation and develop in individual knowledge and skills. It emphasised that organised sector employs only around 10 Per cent of the labour force: **the dominant section of the labour force in the unorganised sector must be helped to significantly improve its performance and increase its productivity.** Programmes of vocational education and training must contribute to the development.

On the basis of these recommendations a detailed framework of Vocational education was launched in the country in consultation with State Education Ministers (1987). A centrally Sponsored Scheme of Vocationalisation of Secondary Education was introduced in the states with substantial financial assistance from the Centre in Feb., 1988.

National Policy on Education (1986) States that Education is a unique investment in the present and the future; and it refines sensitivities and perception that contribute to national cohesion, a scientific temper and independence of mind and spirit – thus furthering the goals of socialism, secularism and democracy enshrined in our Constitution.

– The introduction of systematic, well planned and rigorously implemented programmes of vocational education is crucial in the proposed educational reorganisation. These elements are meant to develop a healthy attitude amongst students towards work and life, **to enhance individual employability, to reduce the mis-match between the demand and supply of skilled manpower, and to provide an alternative for those intending to pursue higher education without particular interest or purpose.**
– Vocational Education will also be a distinct stream, intended to prepare students for identified occupations spanning several areas of activity. These courses will ordinarily be provided

after the secondary stage, but keeping the scheme flexible, they may also be made available after Class VIII.

– Non-formal, flexible and need-based vocational programmes will also be made available to neo-literates, youth who have completed primary education, school drop-outs, persons engaged in work and unemployed or partially employed persons. Special attention in this regard will be given to women.

It is proposed that vocational courses cover 10 per cent of higher education students by 1995 and 25 per cent by 2000. Steps will be taken to see that a substantial majority of the products of vocational courses are employed or become self-employed. Review of the courses offered would be regularly undertaken. Government will also review its recruitment policy to encourage diversification at the secondary level.

Scheme of Vocationalisation of Secondary Education (initially* introduced in 1988, revised 1993): In view of the earlier recommendations, the need for decisive Central role in promoting vocationalisation was accepted. A Centrally Sponsored Scheme was launched. The Centrally Sponsored Scheme to provide financial assistance to the State Governments/UTs and Non-Governmental Organisations as per the approved plan and the pattern of assistance as per the scheme. The implementing agency to be the State Department of Education (Vocational Education). The NGOs and the Voluntary Organisations would be given financial assistance for innovation and for conducting the VE programme.

Synergy Group on Vocational Education (Dr. Sam Pitroda, 1995) recommended (i) Removing the mis-match between demand and supply (ii) Coordination and integration with various Departments/Institutions and avoidance of duplication, (iii) Keeping pace with globalisation and consequent induction of new and emerging technologies and developing manpower accordingly.

Operational Research Group (ORG) "Evaluation of the Scheme of Vocationalisation of Secondary Education, 1996: Some of the findings of ORG Report are: (a) State Director of Education (Schools), by and large, found to be working in isolation with little interaction with other relevant Departments/Organisations/Institutions; (b) The State Government have shown reluctance in the appointment of full-time staff as they are unwilling to take a long term committed liability in case of closure of scheme; (c) Part-time Teachers are usually unemployed graduates who are not experienced and not from industry; (d) In almost every case, the Teachers/Instructors were not given in service training; (e) Diversion at Higher Secondary level was only 4.8 per cent of the secondary students as against prescribed limit of 10 per cent; (f) Only 28 per cent of the Vocational Education pass-out students were employed/self-employed.

** Under the Centrally Sponsored Scheme (1988), financial assistance of about Rs. 700 crores has been provided to the states for implementing vocational courses at +2 level in Higher Secondary Schools/Junior Colleges. The number of schools where capacity for vocational education programme is created is nearly 6,800. Thus, over a period of ten years, on an average, nearly Rs. 10 lakhs per school were made available.*

Working Group on the Vocational Education Programme 1998: A Working Group for revision of Centrally Sponsored Scheme was formed by NCERT, which considered various issues related to VEP and considered imparting for future planning. It made comprehensive set of recommendations covering all aspects for effective implementation of VEP. Some of the recommendations are:

(a) The German School Industry/Dual Model can work in India where the industries are located and are willing to undertake the responsibility of training and placement;

(b) In an area where no industries are located and is short of resources, the centrally located schools should be fully equipped in terms of manpower, machinery and material to serve as an "Area/joint Vocational School" which can serve as training centre for the neighbouring schools admitting VE students;

(c) "The Independent Vocational Schools" be established by converting existing general schools or by starting new schools for emerging and demand driven vocations, both in the formal and non-formal sectors;

(d) To build up the skilled manpower for sustainable development, "the Block Level Vocational Institutions" (BLVI) need to be established in rural areas with complete infrastructure to meet all kinds of requirements including training both for formal and non-formal groups.

In-depth Review of the Centrally Sponsored Scheme of the Vocationalisation of the Secondary Education [Centre for Research, Planning and Action (CRPA, 1999)]: One of the observations made in the report is that Indian social context generally favoured white collared work and has supported higher income-earning employment for those who have a higher paper qualification. The parents, who normally support their wards in providing education, will like to have high rates of return on their expenditure or investments in education, and would prefer their boys and girls pursue higher education to get higher income earning employment, with probably more promotional possibilities. It has also questioned the education planning based on manpower need assessment. It emphasis that due to labour market uncertainties, there is need for short modular courses that can be joined to each other at the convenience of the student (not the VE teacher or planner).

National Curriculum Framework for School Education (NCERT, 2000): This is the recent document published by NCERT. While giving the future perspective for curriculum development, it has given due emphasis on work education, pre-vocational and vocational education. According to it, the scope and focus of vocational education must be extended beyond the organised sector of employment potentialities. Its modal must accommodate the aspirations of the entire population. This would lead to a better educational transformation and provide avenues of the development of human potentialities that cannot be narrowed down to meet only the organised industrial sector. The focus has to be on the vast unorganised sector of self-employment.

Vocational courses be designed as self-contained modules specifying details of the theoretical aspects or basic scientific principles and the practical operational details. The vocational education stream will also have to find its due place in alternative schooling especially in the open learning system. Majority of students leave school at different stages. They have to be provided vocational education and training in some form. Vocational education programme may also cater to the requirements of adults– neo-literates as well as semi-skilled and non-skilled workers; and should be specially geared to the need of the out-of-school girls. For catering to such a variety of target groups multi-entry and multi-exit modular courses of varying duration need to be planned.

Expert Group on Vocational Education constituted by NCERT on the suggestion of Planning Commission, after critically examining the various evaluation reports of external as well as internal (PSSCIVE) groups, made a series of recommendations in its Report (2001) submitted to Planning Commission. (See Annexure).

Report of the Task Force appointed by Government of Madhya Pradesh (2002): A Proposal for a Comprehensive Vocational Education and Training in Madhya Pradesh prepared under the Chairmanship of Prof. H.P. Dikshit Vice Chancellor, IGNOU. The proposal took care of all the problems that have been creeping up in most of the evaluation reports. It suggested Vocational Education and Training Centres for a cluster of villages, Block level Vocational Education and Training Institutes, Comprehensive Colleges of Vocational Education at District level and Advanced Vocational Education, Training and Research Institutes at State level. This structure takes care of problem of vertical mobility in vocational education programme, makes provision for upgradation of skills and career mobility. The emphasis in the report is that vocational education programme be taken in a mission mode. Though the proposal is developed for the State of Madhya Pradesh, it can very well meet the requirement of other states also. (See Annexure).

Vocational Education in Twenty-first Century

World Declaration on "Education for All": that every child, youth and adult has the human right to benefit from an education that will meet his/her basic learning needs in the best and fullest sense of the term – an education that includes learning to know, learning to do, learning to live together and learning to be. It is an education geared to tapping each person's talents and potential and developing learner's personalities, so that they can improve their lives and transform their societies.

It is in this sense that **"Vocational Education for All"** has been the major recommendation of the International Congress on Technical and Vocational Education held at Seoul in 1999.

Vocational Education should be dealt and approached within the comprehensive concept of human development. It is in this context that the following concern discussed in "Human Development in South Asia – 1998" needs to be reflected upon–

> "The challenge for the South Asia region today is to travel the vast distance between its performance and its promise. On the one hand, it has emerged as the poorest, the most illiterate, the most mal-nourished, and the least gender sensitive region in the world. On the other, it has all the potential to become the most dynamic region in the twenty-first century if there is massive investment in human development"

The most critical components in any such investment plans are:

(a) Basic education for all; and

(b) Relevant technical and vocational education

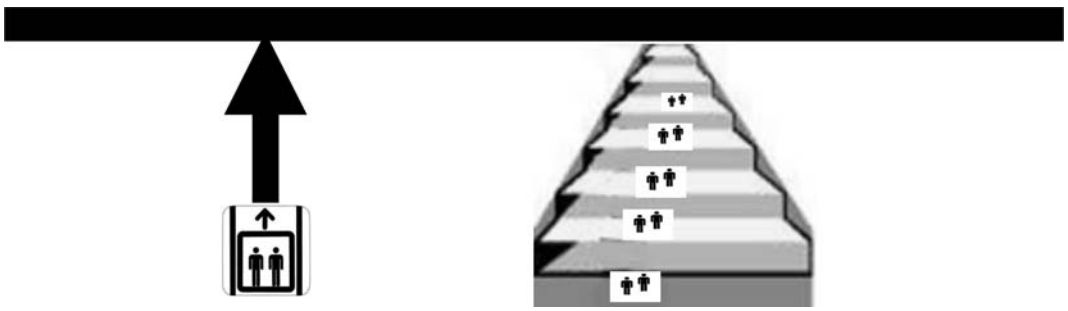
The education challenge has become formidable because of earlier neglects. The economic and social costs of such neglect of education are enormous; and we have already paid heavily for such neglect.

Can we afford to neglect it even now! When there are evidences to show that education and skills lead to many social benefits and over-all country's development. What is needed is that education offered is relevant, enhances employability and is related to economic prosperity of the individual as well as the nation.

India's human resource base is one of its strengths, and what is needed is to train an unskilled Indian to be a skilled one, and to impart better skills to a skilled Indian.

Points for Power Point Presentation

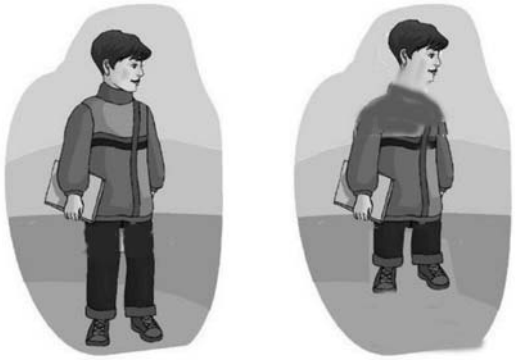
There are different pathways through which persons can reach the same heights. For example starting from ground floor people can reach same level either using lift, staircase or inclined plane. Efforts made, support provided, time taken, may be different but finally people move from one level to another level. Similarly, in the education system, learners have different backgrounds. They come from different socio-economic environment. They have different capabilities, they have different methods of studying, they have different patterns of behaviour, they have different capacity to memorise, have different capacity for perseverance, etc. When subjected to the same path, they are unable to reach the same level in a given duration. On the other hand, if the intention in education is to move from one level to another level, then learners from the various levels should be given opportunities to learn as per their capabilities.



Raising the question as to why a straight jacket approval is adopted where a given syllabus is to be completed in the fixed time following a rigid pattern of instruction with same input for everyone and using the same methodology.

The second point is that whenever recommendations are made by Commissions and Committees, at the time of policy and then implementation only a part of these recommendations are accepted and implemented, thereby distorting the whole process. As a result the expected impact normally does not take place. The Commissions and Committees look at the problem holistically and therefore makes recommendations accordingly. Taking a part of these recommendations means only a part of the situation has been accepted.

This can be best explained by an example –while drawing a picture of a person, if one does not maintain the proportionality of different parts and makes the head large or shortens the legs, the picture then does not remain picture of the person instead it is called the cartoon of the person.



It is in this background, one can analyse the recommendations made by Radhakrishnan Commission, 1948 and Kothari Commission, 1964.

Radhakrishnan Commission while making recommendation for rural universities, recommended establishment of rural schools and rural colleges. It described rural schools and rural colleges in great detail and suggested that they should be the feeder institutions for rural universities. Expectation was through these institutions (rural schools, rural colleges, rural universities) rural transformation can take place resulting in the development of modern villages. Unfortunately, rural schools and rural colleges were not established but only some rural universities did come up.

Similarly, Kothari Commission made a series of recommendations about Vocational Education Programme to be implemented. A comprehensive approach was suggested along with a projection on the student population requiring vocational education either on part-time basis or full-time basis. It also suggested a restrictive approach towards tertiary/general education. However, only a restrictive Vocational Education Programme of two years duration at +2 level was implemented. All other aspects were not taken into consideration.

Kothari Commission (1964-66)

- A lower secondary or high school stage of three to two years in general or one to three years in vocational education.
- A higher secondary stage of two years of general education or one to three years of vocational education.

- At the end of the primary stage:
  - About 20 per cent enter world of work
  - About 20 per cent enter into vocational courses
  - About 60 per cent continue in the stream of general education
- At the end of the ten years of school education
  - About 40 per cent students enter world of work
  - About 30 per cent step off the stream of general education and enter vocational courses
  - About 30 per cent continue in the stream of general education

Even the National Policy on Education, 1986 on Vocational Education was implemented partly again limiting the vocational programme for +2 level. The policy has men tioned keeping the scheme flexible, vocational education may also be made available after Class VIII; this was not implemented.

NPE (1986)

- Vocational Education will be a distinct stream, intended to prepare students for identified occupations spanning several areas of activity. These courses will ordinarily be provided after the secondary stage, but keeping the scheme flexible, they may also be made available after Class VIII.
- Non-formal, flexible and need-based vocational programmes will also be made available to neo-literates, youth who have completed primary education, school drop-outs, persons engaged in work and unemployed or partially employed persons. Special attention in this regard will be given to women.

It is in this background that if we analyse educational system as it exists today, we find that the whole programme is basically a preparatory programme for tertiary education. All students are expected to follow the same curricula in a very rigid pattern, resulting in a very small percentage of students successfully completing school curricula at different stages – Class X/Class XII and even a similar percentage going for higher education. A large number of students anything between 80-90 per cent leave school education at different stages. This is an average indicating that the percentage of school children leaving schools at early stages at rural setting is very high.

The question here arises that if only 10 per cent or at the most 20 per cent (projection for 2015) are expected to join higher education then why all students should be made to follow the same rigid curricula knowing well that more than 80 per cent will not be going for higher education. Here there is a question – why the school curricula is not so designed that it caters to the requirements of the 80 per cent children, to enable them enter the real life without a stigma of failure, without being considered as non -achievers, without loosing their self confidence, without loosing their self respect and a feeling of second grade person all through their lives. It is in this context, that we must think about the Vocational Education and Training Programme where studen ts while learning acquire employable skills in any specific area of his interest and join,

accomplish it and enter the world of work with confidence. Feeling what can he do, what he cannot do, thereby having some confidence in himself and earn a better living for him/her. Unfortunately, there are various barriers which prohibit a student enter the vocational education programme. The barriers are in terms of limited number of institutions/schools offering vocational courses. Where such institutions exist they offer limited number of trades and limited number of seats. There is then the question of entry qualification or age, which does not allow students to get the benefit of vocational education programme being offered and finally there is social stigma regarding the low status of manual work.

There is another issue of equity in education and vocational education programme which means provision of appropriate vocational courses for girls, minority groups, disabled persons, children from poor families, unemployed and underemployed youth.

Absence of guidance and counseling adversely affects the choice of appropriate educational pathway for the children.

With reference to vocational education programme there are issues like relevance, quality, flexibility and examination and assessment, which need lot of discussion and clarity. Thinking in terms of vocational education can finally bring a major change in the examination and assessment process which unfortunately at the present has distorted the whole education problem at the school as well as university level.

Annexure IV

Technical and Vocational Education and Training Programme in India – Status, Issues and Challenges

Davinder K. Vaid*

The position of Work has always been high in the Indian way of life. Dedication of body, mind and soul to the doing of work followed by complete detachment from its results has been the essential virtues associated with the philosophy of work. Gandhiji blended intellectual culture and work culture together in his philosophy of education called 'Basic Education'. Education in his self-sustaining rural community had work done by children in school as its prime work. Education would come through work and would be related and relevant to it. This concept is further enhanced by Dr. Zakir Hussain in his philosophy of 'Nai Talim', which emphasised that activity provides the best and quickest way of developing the intellect.

The Programmes

There are three major programmes of Technical and Vocational Education and Training in our country These are :

(1) Vocational Education Programme, which is running mainly at +2 stage, in general schools, as a distinct stream along with the academic stream, accepting collaborative model, under which skill development is done in vocational institutions with the active cooperation and collaboration of the industry. The programme aims at preparing people for the middle level occupations in the wage and self-employment sector, mainly for the unorganised sector of the economy.

(**2) Vocational Training Programme,** which is running in NCVT approved Industrial Training Institutions (ITIs), preparing work force at the grass-root level in the organised sector, mainly for Engineering based occupations, and also for some non-engineering based trades.

(3) Technical Education Programme is running in AICTE approved Polytechnics for preparing work force at the supervisory level, mainly for the Engineering based occupations in the organised sector.

The details of the facilities and programmes under TVET offered in India are given in the following table.

It may be seen from the table that vocational education programme is the largest programme of skill based education and training in the country. It accounts for more than half (about 53 percent) of the capacity created for providing vocational education and training to people in the formal system.

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Table : Technical and Vocational Education and Training (TVET) facilities in India

Nature and Type of Programme	Stage of Education	No. of Courses	Enrolment Capacity	Course Duration	No. of Institution
(A) Formal Programme					
(i) Vocational Education Programme (Vocational Schools)	10+	160	9.72 lakh	2 yrs.	6800
(ii) Vocational Training Programme (ITIs)	8+ and 10+	67*	6.72 lakh	1 to 2 yrs.	4591
(iii) Technical Education Programme (Polytechnics)	10+	40	1.88 lakh	3 yrs.	1224
(iv) UGC Programme (undergraduation level)	12+	42	N.A.	3 yrs.	1850
(B) Non Formal Programme					
(v) Jan Shiksha Sansthans	No Qualification Bar	N.A.	N.A.	Short courses	108
(vi) Community Polytechnic Scheme	No Qualification Bar	N.A	4.5 lakh per year	3 – 9 months	675

Source: Compiled from 'Draft Project Implementation Plan of National Programme in TVET, unpublished documents, MHRD, GOI, 2003

Historical Prospective

The concept of Vocational Education has been debated for more than a century in the country. From Woods Dispatch (1854), to Ramamurty Committee (1990), all the committees and commissions on education, appointed by the Government of India during the pre and post independence period have emphasised the need for work based education or Vocational Education.

In the post independence period, RadhaKrishnan Commission (1948) emphasised the need to give a vocational bias to the courses of education. The Mudaliar Commission (1952) recommended diversification of education, resulting in establishment of multipurpose schools.

**Number of trades in ITIs include 43 Engineering based and 24 non–Engineering based trades Vocational Education Programme.*

The Kothari Commission (1964-66) which became the basis for National Policy on Education 1968 envisaged the introduction of 10+2+3 pattern and stressed that +2 stage should be regarded not merely as college prepatory but as a period of preparing an increasingly large number of school leavers for different vocations of life. In pursuance of the NPE (1968), Vocational Education Programme was started in 1976-77 in general education institutions, to meet the manpower requirements of the unorganised sector of the economy.

The Kulanandaiswamy Committee (1985) reviewed the VEP and developed guidelines for the extension of vocation education. These became basis for the National Policy on Education 1986, which accepted 'work experience' as an essential component at all the stages of education and accorded high priority to vocational education, which was introduced as a distinct stream at +2 level, to prepare students for identified occupations spanning into several areas of activity.

The NPE 1986 was reviewed by Acharya Ramamurty Committee in 1990, which recommended vocational education for all. A revised policy on education was formulated in 1992, which highlighted the need to introduce Generic Vocational Courses for academic stream students at +2 stage.

Formal Vocational Education Programme

The National Policy on Education 1986 clearly specified that "the vocational courses will ordinarily be provided after secondary stage but keeping the scheme flexible, they may also be available after Class VIII". However the programme of vocational education has actually been started only at the +2 stage, in all the implementing states and Union Territories in the country.

The programme of vocation education has been started with the objectives of :

(i) providing diversification of educational opportunities so as to enhance individual employability;
(ii) reducing mismatch between the demand and supply of skilled manpower; and
(iii) providing alternative to those pursuing higher education.

The programme of vocational education which was started in the year 1976-77 had a modest success until liberal funds were provided by the Central Government to the implementing States/ Uts as well as NGOs, under the Centrally Sponsored Scheme of Vocational Education (CSS), in the year 1988, for the creation of infrastructural facilities, management structure etc. needed for the effective implementation of the programme.

Current Status and Features

The current status and important features of the programme of vocational education in the country are given as under :

(i) Realising the importance of vocational education, almost all the states and UTs started vocational education programme at the +2 stage of senior secondary education by the year 1994-95.

(ii) An amount of over Rs 698 crores has been released by the Central Government to the States and UTs under the Centrally Sponsored Scheme for the effective implementation of the programme.

(iii) Facilities for the introduction of vocational courses have been created in the six major areas of Agriculture, Business and Commerce, Engineering and Technology, Health and Paramedical, Home Science and Humanities, Science and Education, in as many as 6,800 schools/institutions in the country.

(iv) There are about 4.5 lakh students studying different vocational courses in the above-mentioned schools against a capacity of 9.72 lakh students created.

(v) More than 160 different vocational courses of two years duration, in the six major vocational areas, are being offered at the +2 stage by different school/institutions in the implementing States and UTs in the country.

(vi) The academic support for the implementation of the programme is provided by PSSCIVE, NCERT through its various activities such as development of curriculum, instructional materials, guidelines for implementation, research and evaluation programmes and training programmes for various functionaries, concerned with the implementation of the programme.

(vii) The overall implementation of the vocational programme rests with the state governments, which in most cases work through the state departments of education. In some states such as Karnataka and Orissa separate Directorates of Vocational Education have been created. In the states of Maharashtra and Haryana, the implementation of the programme is through the Directorate of Industrial training.

(viii) Formal vocational programme by an large is a state delivered programme as the students pay only a fraction of the cost as tuition fee.

(ix) Most of the vocational courses are covered under Apprenticeship Training for a duration of one year during which a stipend of Rs 1,090 is paid to the students, which is shared equally by the Central Government and the collaborating institutions.

(x) The vocational courses have been designed in such a way that about 65-70 percent of the school time is devoted to the development of vocational skills, another 10-15 percent on development of communication skills (languages) and the remaining 10-15 percent of the time is devoted to Entrepreneurship skills, Environmental Education, Rural Development, etc.

(xi) According to the report of ORG, an independent research organisation appointed by the MHRD for conducting evaluation of the scheme of vocationalisation of education in the country, about 28 per cent of the vocational passouts were joining the world of work – wage employment/self employment, after completing their course.

(xii) About 40 per cent of the passouts of the vocational stream were joining higher studies in the academic stream.

Major Problems in Implementation

Against the national goal of diversifying 10 per cent of the students at the secondary stage to the vocational stream by the year 1995 and 25 per cent of them by the year 2000, actually we have been able to divert only abut 4.5 per cent of the students.

PSSCIVE has been evaluating the effectiveness of the implementation of the vocational education programme, from time to time, through conducting studies of the implementing states. In the recent years it has conducted studies for the evaluation of the programme in the state of Haryana, Tamil Nadu, Punjab, Assam and Maharashtra. Earlier also, in the year 1990–91 it conducted 'Quick Appraisal Studies of the Implementation of Centrally Sponsored Scheme of Vocationlization of Secondary Education' for the states of Goa, Karnataka, MP, Maharashtra, Himachal Pradesh and Delhi. The status of the programme as well as its strengths and weaknesses in each of the state have been evaluated and suggestions and recommendations have been made for improving the effectiveness of the programme, based on the perceptions of a large number of shake holders, including the officers of the Directorates of Education, Boards of Education, principals, students, teachers of the schools implementing the programme and representatives of the Panchayats, employers etc.

Some of the common problems being faced in the implementation of the programme are as follows:

(i) psychological preference of the students and parents for academic education. There is poor perception about the vocational courses amongst the key functionaries, parents, employers, students and public at large, because of poor quality and lack of employability of the passouts.

(ii) lack of development of proper management structure in the implementing states, causing difficulties in several activities relating to planning, monitoring and providing academic support to the programme; which is affecting the quality of the programme.

(iii) non availability of trained teachers to teach vocational courses as no state has yet started a programme for teacher preparation though PSSCIVE has developed a course in B.Voc. Ed., for the pre service training of vocational teachers.

(iv) non-availability of adequate instructional materials, specially developed for the needs of the vocational courses. The students have therefore to rely mostly on the notes given by the teachers and some reference books, from the related fields.

(v) insufficient tools and equipments in the laboratories, for conducting practicals and learning skills. As a result, the quality of practical training and thereby the development of skills gets affected.

(vi) lack of systematic school industry linkages for effective implementation of the programme. This not only affects the transaction of the curriculum, particularly the development of practical skills, but also the acceptability of the vocational passouts amongst the employers.

(vii) ad hoc selection of institutions and vocational courses, without assessing local needs or employment potentiality of the courses which, ultimately affects the employability of the passouts.

(viii) The Central as well as State Governments not modifying recruitment rules, to facilitate employment of graduates of vocational courses; and

(ix) absence of counseling and guidance services for helping students in making meaningful educational and career choices and for their placement in gainful employment.

(x) Inflexibility in the contents, duration and delivery of the programme because of which, the programme is catering only to limited target groups of +2 students in the formal system.

(xi) Lack of opportunities of vertical mobility in the same or related profession though some states have made provisions for the vocational passouts to take admission into degree level courses, etc.

Major Concerns and Issues

In view of its objectives and the problems, some of the concerns and issues currently affecting the programme of vocational education are as follows:

Enhancing the Reach of VEP

A major concern of the educational planners, policy makers and implementers is to extend the reach of the vocational programme to all people who need to be provided with skill based education and training to increase their employability and thereby improve their quality of life.

As per the available data, about 20 percent of the country's population is in the school going age group of 5 to 18. A very large number of these children either do not enroll themselves in the schools or drop out at various stages of education. For example, 52 per cent of the children who join Class I in a school drop out upto Class VIII and more than 70 per cent, drop out between Classes I and X. The number of children reaching Class XII is only about 20 per cent and the number of children going for higher education is not more than 10 per cent. These children, who drop out of the education system at various stages, are joining the world of work, without acquiring employable skills and are getting exploited in the society by way of meager wages, inhuman working conditions, long hours of work, etc.

With the universalisation of elementary education, there will be pressure on the already insufficient infrastructure of schools. Retaining students within the education system after Class VIII will be a major issue. Alternative strategies would be required for educating and training the youth for the world of work so that they become productive members of the society.

Other groups of people who need to be provided with inputs of vocational education and training are traditional craftsmen and people from marginalised groups — neoliterates, women, people belonging to scheduled casts and tribes, etc.

Further, the rapidly changing economic and technological environment requires continuous upgradation of the skills of present workers. There is therefore a need for retraining and upgradation of the skills of the workforce, from time to time.

Thus, alternative strategies are required to be developed for providing opportunities of vocational education and training to different target groups of people.

Enhancing Quality of the Programme

Improving the quality of the vocational education programme is a major challenge before the planners and implementators of the programme. The quality of the programme may be judged by the quality of the passouts, which, in turn, depends on the development of employable skills or competencies in them. An increase in the quality of the passouts so as to bring it to the acceptable levels of competencies would require, besides other things, upgradation of the infrastructural facilities, strengthening school industry linkages, developing and revising need based curricula and instructional materials and improving the system of evaluation and certification of vocational students. This requires an all out effort by all the concerned.

Improving Relevance of the Programme

The issue of relevance of the vocational programme is concerned with relating the programme to the needs and interests of the stakeholders - students, parent's employers and the society at large. The courses should match with the aspirations, attitudes, interests and convenience of the students. Apart from that, these should be designed as per the economic opportunities available in an area and be integrated with the development plan of the block or the district. There is a need for constant revision of the vocational courses and development of new courses according to the emerging opportunities of employment, for which preparations have to be made by creating the systems and operational sing the same.

Improving Employment Potentialities

Growing unemployment and under employment of the educated people is an important issue affecting the economic and social thread of the nation, which needs serious attention of the planners. Of the 36 million people in the workforce, only 7.82 per cent are employed in the organised sector. The remaining over 92 per cent of people are engaged in the unorganised sector.

Creating opportunities of employment for masses, by providing need based programmes of vocational education and training is a major challenge for all.

Managing Resource Constraints

Implementation of the vocational education programme requires creation of infrastructural facilities which is a capital-intensive proposition. The programme by far has been state funded.

However most of the state governments are facing resource crunch and are therefore facing difficulties in implementing and expanding the vocational programme.

Providing for alternative sources of funding, including inviting greater participation of the private sector and NGOs is therefore a major issue concerning the programme of vocationalisation of education in the country.

Opportunities of Vertical Mobility

Provision of vertical mobility in the same or related vocation is a major issue affecting the acceptability of the vocational education programme which was initially planned as of terminal nature at Class XII level. The terminality of the courses has not been taken well by the students as well as their parents. They want opportunities of further growth in their careers and don't want these courses to be dead ends in itself.

Introducing Flexibility in VE Programme

In order to meet the requirements of vocational education and training of different categories of target groups, it is important to design vocational courses of different duration and allow flexibility in terms of multiple entry and multiple exit so that people join these courses at their own convenience, take whatever module they like to (instead of taking the whole course) and complete the course at their own pace. This will also satisfy the requirements of people for acquiring multiple skills, so that they can add on to their competencies and also refresh their knowledge and skills.

Introducing flexibility in the system calls for action in respect of the following:

(i) introduction of a large number of short duration courses in different vocational areas;

(ii) preparation for multiple certification so that different courses such as 'certificate course', 'advanced certificate course', 'diploma' or 'advanced diploma' may be offered by the Boards, instead of offering a single, two years course at +2 level, as is being done presently.

(iii) introduction of modular and credit based system, to allow multi-entry and multi-exit to the students; and

(iv) introduction of semesterisation system, as advocated by the National Policy of Education 1986.

VEP at other Stages

Work related education has been incorporated as an integral component of the school curriculum, from Class I to Class XII, by whatever name it may be called – work experience, work education, SUPW, craft education, life oriented education, pre vocational education and generic education. Regardless of the nomenclature, work based education aims at involving children in a variety of production or service oriented activities, with a view to develop positive attitudes and values through work and also to develop work related competencies.

The programme of VEP at different stages of education is as follows :

- Work Experience/SUPW – Primary and middle levels
- Pre-vocational Education – Class IX and X
- Vocational Education (as a distinct stream) – Class XI and XII
- Generic Vocational Course – Class XI and XII (for academic stream of Education)

The 'Programme of Action' 1992 document specified that at least 12.5 to 20 per cent of the school time at the primary and middle levels, and 20 per cent of the time at the prevocational level (Class IX and X) be devoted to these work related programmes.

The implementation of work experience/SUPW/prevocational education programme again is far from satisfactory because of various reasons such as non allocation of sufficient time in the school time table; non examinable nature of the courses; insufficient funds and non availability of trained teachers, raw materials, equipments etc for the programme.

The Generic Vocational Programme is a non-starter as only few schools in CBSE implemented this course, that too on a pilot basis, other Boards have yet to implement the GVC course.

Facilities need to be created for the effective implementation of these programmes in the schools so that work related education becomes a reality.

Non Formal System

Number of NGOs are working for providing skill based education and training to varied target groups of people. These organisations are generally running short courses, in areas such as technology, home science and commerce for specified disadvantaged groups of peoples such as street children, dropouts, women, children belonging to SCs, STs and minority groups. Some of the NGOs are getting funds from the Ministry of Human Resource Development, GOI, for running 'Innovative' programmes in vocational education. Various other ministers such as Ministry of Social Welfare and Justice, Rural Development, Ministry of Labour as well as certain agencies like Council for Advancement of People's Action and Rural Technology (CAPART) are also providing financial assistance for running non formal vocational education and training programmes.

Other institutions running vocational education and training programme in the non-formal sector include 'Krishi Vigyan Kendras' (KVKs), Khadi and Village Industrial Commission (KVIC), Jan Shikshan Sansthan and Community Polytechnics. Some vocational courses are also offered by National Open School through number of institutions accredited by it. These courses are offered to persons above the age group of 14, even if one doesnot have a formal school certificate.

Some of the problems faced by the non formal sector include lack of certification and accreditation of institutions and courses, problem of equivalence with formal education and training programme and lack of infrastructure, both human and material, for proper running of the programmes.

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Annexure V

National Focus Group on Work and Education
A Note on Generic Competencies
Pratibha Jolly*

Change as paradigm: The world today is in a state of flux. Advances in science and technology; impact on society of information and communication technologies; faster processes of diffusion of knowledge, innovation and technology products; and above all blurring of cultural diversity and globalisation of aspirations are leading to a distinctly different world order. Then there is need to contend with, both, change and convergence. These societal trends, fraught as they are with incongruity, define the context as well as the paradigm in which future educational systems would have to be embedded. Inasmuch as the individual is the focus of education, there is need to reflect on how best education can foster social diversity and empower the individual within this paradigm.

Changes in our understanding of objects of education: Important changes have taken place also in our perception of education and the process of teaching-learning. It is now widely recognised that to be meaningful, teaching-learning has to be centered on the individual learner and the role of the teacher is one of a facilitator. There is, in principle, acceptance that traditional models of teacher-centered learning by transmission of knowledge need to be replaced by learner-centered models that entail active mental engagement as a tool for engendering cognitive change. In ideal systems, diversity in learning needs and learning styles is celebrated and nurtured through individualised and custom-designed instruction. Effective teaching-learning environments invoke hands-on work, activity-based or experiential learning, problem-solving, exploratory projects, field trips and case studies as instruments of learning. There is shift in emphasis from product of learning to the process of learning. Learning to learn is an object per se.

Relating education to the work place and employment: These understandings about how best to learn are, in particular, pertinent to the changing world scenario wherein rapid changes in the workplace necessitate lifelong learning. An individual in a knowledge-based society or a technology driven work place has to continuously adapt to new and changing situations. In a world where career paths are increasingly nonlinear and pursuit of knowledge interdisciplinary, an individual has to continuously handle, update, evaluate and apply knowledge to newer contexts. Then a society of knowledge without bounds also has to be a society of learning without bounds. While learning has to be embedded in a context and knowledge is subject related, the higher objects of learning have to be generic and dynamically linked to the changing needs of the society.

Generic Core Competences: The functional object of education is to prepare the student to be a responsible citizen, leading a productive life in the workplace. To that end, imparting an

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understanding what work entails has to be an integral part of education for all. Then there is need to provide students early and frequent exposure to what work means to practitioners in the workplace in a rich variety of contexts. Given the multitude of possible vocations and professions and changes in the work techniques and demands as outlined before, there is need to identify the broad common denominator in what it takes to successfully accomplish generic rather than specific tasks.

In addition to subject related competences, development of generic skills and competencies for work has to be an important objective of any educational program for all students. The word "competence" is often used interchangeably with terms such as skill, capacity, capability, aptitude, proficiency, expertise, know-how, and experience. All relate to the individual and have specific and overlapping meanings. Together with skills, competence implies a set of dynamic attributes necessary for understanding and implementing a task. It has an all encompassing meaning that conveys the level of necessary and sufficient preparedness for carrying out a set of tasks reliably, accurately and responsibly in accordance with pre-defined standards or expectations in a given social context.

Competences can broadly be considered along three–dimensions:

– Instrumental competences relate to the technical aspect of any job; these include cognitive aspects, mathematical abilities, linguistic abilities, communication skills, ability to understand methodology, the tools and techniques, capacity for analysis and synthesis.
– Interpersonal competences relate to the social aspect of any job; these include individual attributes such as motivation for work, abilities such as attitude to work or work ethics, social skills, capacity to function cooperatively, to assume different roles, to work in collaborative teams, to work in interdisciplinary contexts..
– Systemic competences relate to the overall understanding and capacity for working in changing contexts; these include the ability to comprehend the whole system, develop a holistic perspective, alter parts and design new systems, capacity to transfer of learning.

Developing Competences: Competences can be taught, learnt and enhanced through suitable learning experiences.

Problem-solving exercises, craft and design activities and projects, among other hands-on activities, provide the perfect framework and opportunity for initiating the student to the art of work, imparting skills and developing generic competences. An understanding of what generic competences are of value in the work place, in the new social paradigm, allows the teacher to organise the requisite learning experiences and integrate these in the curriculum throughout the learning years. Such experiences have profound importance and needs to be planned with care. Experiential learning in eclectic contexts broadens systemic understanding and consolidates skill, competence and confidence. It also provides opportunities for developing the vital skills of adapting and surviving in continuously changing environments.

As an example, courses on Craft or Design and Technology provide an excellent mechanism for developing generic competences. These cast the student in the role of an innovator and have

been used even in primary classes with great success. Relevance of the curriculum to the real world is extremely important for the students. It is not necessary to look at the high technology artifacts to value product related work. One has only to look around to realise that every aspect of human surroundings has an element of design. Students enjoy the act of building things as also the act of breaking apart things. They enjoy working with materials, components and tools, understanding processes that underpin existing products and making things to suit their own requirements. A systematic study of design and technology can provide opportunities for learning a broad spectrum of generic skills and competences. The challenge for an educator is to temper the flurry of activity usually witnessed in student hands-on activities with the rigor of scientific method and systematic thinking; to construct learning environments where the process of learning is both, hands-on and minds-on. There is scope here to broaden the framework of education so that the support of social groups from the work place can be enlisted.

Collaborative projects and problem-solving exercises can be interwoven with any subject specific course and provide an opportunity for development of generic competences, regardless of ability level or potential. However, if competence generation is the objective, choice of the problem matters. Problems have to be context-rich and reflect the know-how of every day life. Problem-solving approach to learning stimulates curiosity and gives a flavor of creative processes. It incorporates the skills of observing, designing, decision-making, brainstorming, implementing and evaluating solutions. Successful collaborative group work depends on facets of interpersonal skills, role play and team work.

Pedagogic Models: Suitable pedagogic input is critical in developing competences. The cognitive apprenticeship model of learning has been successfully used to this end. In the initial stages the teacher, like an expert craftsman, models the problem, provides coaching and scaffolding to the student who moves forward through a sequence of increasingly complex tasks. As the student learns to negotiate these tasks entirely by herself, the teacher gradually fades out and frees the student to apply the knowledge gained to newer contexts.

(SUPPLEMENT)

This section is based on the findings of the project *Tuning Educational Structures in Europe* (2001-2002)[1].

The Tuning Project developed questionnaires to identify the so-called generic skills and competences and how they were valued by, first by the graduates and employers, and then by the academics. The questionnaire comprised of 30 competences in three categories:

Instrumental Competences

- Capacity for analysis and synthesis
- Capacity for organisation and planning

[1] *The Final Report Phase One, Edited by Julai Gonzalez and Robert Wagenaar, University of Deusto and University of Groningen (2003.)*

- Basic general knowledge
- Grounding in basic knowledge of the profession
- Oral and written communication in native language
- Elementary computing skills
- Information management skills (ability to retrieve and analyse information from different sources)
- Problem-solving
- Decision-making

Interpersonal Competences:

- Critical and self-critical abilities
- Teamwork
- Interpersonal skills
- Ability to work in an interdisciplinary team
- Ability to communicate with experts in other fields
- Appreciation of diversity and multiculturality
- Ability to work in an international context
- Ethical commitment

Systemic Competences:

- Capacity for applying knowledge in practice
- Research skills
- Capacity to learn
- Capacity to adapt to new situations
- Capacity for generating new ideas (creativity)
- Leadership
- Understanding of cultures and customs of other countries
- Ability to work autonomously
- Project design and management
- Initiative and entrepreneurial spirit
- Concern for quality
- Will to succeed

The questionnaire was translated into 11 official languages of the EU and sent to participating universities. Each university gathered data from a sample of 150 graduates; 30 employers and at least 15 academics in the discipline domain area in which the university was participating. The respondents were requested to rank the importance of the skill or competence for work in their

profession and also state the level of achievement of the skill/competence that they estimated to have been reached as a result of the educational degree programme.

Significant differences in perception between the three groups of respondents were observed. Comparing the responses of graduates and employers, the highest differences in perception corresponded to ethical commitment with employers rating this item higher than graduates. Also, the employers rated the ability to work in an interdisciplinary team significantly higher than graduates. On the other hand, graduates rated ability to work autonomously far higher.

The procedure of analysis created combined rankings for groups of items with non-significant differences in the assigned ranking mean. While the detailed results are not quoted herein, it is interesting to compare the ranking of competency clusters given below in Tables I for the three groups. Only those items which were common in the questionnaires are included.

Table 1: Ranking of competences by Academics, Graduates and Employers

Description	Academics	Graduates	Employers
Capacity for analysis and synthesis	2	1	3
Capacity for applying knowledge in practice	5	3	2
Basic general knowledge	1	12	12
Grounding in basic knowledge of the profession	8	14	14
Oral and written communication in native language	9	7	7
Knowing of second language	15	14	14
Elementary computing skills	16	4	10
Research skills	11	15	17
Capacity to learn	3	2	1
Critical and self-critical abilities	6	10	9
Capacity to adapt to new situations	7	5	4
Capacity for generating new ideas (creativity)	4	9	6
Decision-making	12	8	8
Interpersonal skills	14	6	5
Ability to work in a interdisciplinary team	10	13	11
Appreciation of diversity and multiculturality	17	16	16
Ethical commitment	13	16	13

Annexure VI

List of Papers/Reports on Vocational Education and Work-Centred/Related Programmes in North America and Europe[1]

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[1] *Prepared by Prof. K. Ramakrishnan, Coimbatore, Member National Focus Group on 'Work and Education'.*

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ANNEXURE VII

EMPOWERING THE GOVERNMENT SCHOOLS*,

a plea for political priority for the only historical option for India

The crisis was foreseen by the Kothari Education Commission (1964-66) which unequivocally recommended the **Common School System with neighbourhood schools** as the National System of Education for all children of India. What is a Common School System? The most important feature of a Common School System is *equitable* (not *uniform*) quality of education for all types of schools, be they Government, government-aided, local body or private schools. Six essential and non-negotiable attributes of equitable quality of education need to be specified : (i) minimum physical infrastructure, including library, teaching aids, playgrounds and many other features (for example early childhood care centres and pre-primary schools attached to primary/elementary schools); (ii) professional quality of teachers and teacher : student ratio; (iii) diversified and flexible curriculum to reflect the geo-cultural plurality of the country, while emphasising certain core curricular features of nation-wide significance; (iv) pedagogy for holistic, child-friendly and liberative education; (v) apart from gender sensitivity, pedagogic and social empathy for the *dalits*, tribals, cultural and ethnic minorities and the physically or mentally challenged children; and (vi) de-centralised and community-controlled school system.

The Indian Parliament has expressed its commitment to the Common School System twice in its resolutions on the National Policy on Education respectively in 1986 and 1992 (the 1968 policy, issued as a Cabinet resolution, was also committed to the Common School System). Yet, the concept could not be translated into practice because the political leadership and bureaucracy at all levels along with the intelligentsia found an *escape route* for their own children viz. the private school system. This shift in commitment from the Government school system to the private school system implied an increasing loss of political, bureaucratic and social will to improve the Government schools. The present policy support to privatisation and commercialisation of education amounted to legitimisation of *status quo* of disparity, discontent and disempowerment of the vast majority of Indian people.

The Central Advisory Board on Education (CABE) appointed a Committee on Common School System in 1988. The CABE Committee proposed a ten-year phase-wise programme for reconstruction of the present school system into a Common School System. In 1990, the Acharya Ramamurti Committee, constituted to review the 1986 Policy, extended the CABE Committee proposals further. The chief features of a phase-wise re-construction programme

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**This concept was first evolved and elaborated in the* LOKSHALA Programme for Universalisation of Elementary Education*, organised by Bharat Jan Vigyan Jatha with academic support from Maulana Azad Centre for Elementary and Social Education of the Department of Education, University of Delhi (March 1995).*

#*Published in* Outlook*, 11 December 2000.*

may be summarised as follows : (a) Highest political priority to improvement of both the access and the quality of the Government, local body and the government-aided schools; (b) De-centralisation of decision-making and management of schools through the Panchayati Raj framework and making the school entirely accountable to the community it serves; (c) Fulfilling the Constitutional obligation of a minimum of eight years of *elementary* education (instead of five years of *primary* education) under Article 45 to all children up to 14 years of age (including the early childhood care and pre-primary 0-6 age group); (d) Allocation of *adequate* financial resources, getting out of the '6 per cent of GNP' trap; (e) A pedagogically and socially rational language policy for the medium of *education* (not *instruction*) common to all schools, so that language becomes a means of *articulation*, rather than *imposition*; (f) A carefully constructed programme of incentives, disincentives, persuation and eventually legislation to gradually bring the private schools into the fold of the Common School System; incentives to private schools may include grants for children from low-income groups, computed at the rate of allocation per child in Government schools, such that all children in the neigbhourhood have access; disincentives may include gradual withdrawal of all hidden subsidies to private schools, like the cheap land, tax-free income and exemption from income tax on donations, teachers trained at public cost, etc.

The elite in India have always been dismissive of the concept of Common School System by mocking at it as being politically too radical and, therefore, infeasible. In contrast, the poor and the lower middle class have for long internalised the concept as the only means for their empowerment and social justice. It is an irony that such an equitable public school system has been prevalent in some form or the other in several European countries, USA and Canada. Indeed, this is the only historical option left for India for building a cohesive, secular and just society. The diversionary educational agenda including adult literacy, non-formal centres, Alternative Schools or Education Guarantee Scheme, will have to be given up. The agenda of 'Empowerment of Schools' for creation of a Common School System must receive topmost priority in national political agenda.

30 November 2000

Prof. Anil Sadgopal
Head & Dean
Department of Education
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Annexure VIII

Creative worlds: my life, my knowledge, my survival

Dunu Roy*
Hazard Centre (*Khatara Kendra*), New Delhi

It was some 30 years ago, in the mid-70s, that we got a glimpse of what the future might hold. We had just purchased 2 acres of land to build a workshop on, in the district of Shahdol in Madhya Pradesh. There had been some argument with the neighbouring owner about where exactly the boundary lay. So one day we dragged out the iron chain that surveyors use, and began measuring the land ourselves. A curious shepherd boy must have witnessed the proceedings, because next day a delegation of solemn farmers from the nearby village paid us a visit. They had heard that we were engineers, they explained, so could we teach them how to measure land? Why, we asked, whatever will you do with it? Well, they explained, the *patwari* (the government revenue functionary at the village) had been demarcating their lands and they were never sure whether he was doing it right. So we spent the next four hours demonstrating how the chain worked and how to calculate the area. In the process, of course, we began to learn that the chain was called a *jareeb*, the area was *rakba*, the *khasra* number referred to the record in the revenue department, their title was the *patta*, and the *patwari* presided over a *khatauni* in which all secrets were well documented.

A week later, the same delegation was back, but looking less solemn and more brashly conspiratorial. Could they borrow our *jareeb*? We handed over the chain and then, not a little puzzled ourselves, we followed them at a discreet distance. In due course, we arrived at the village and a curious spectacle greeted us. On the farms of the village, the *patwari* was laying out his chain, and wherever he went, the farmers followed with their borrowed *jareeb* and laid it out in exactly the same manner. At every halt they would watch the *patwari* and when he began to enter figures in his notebook, they too would whip out a pencil and scribble on a piece of paper. Rarely had we seen a more harassed looking *patwari*! At the end of the day, the delegation was back again, beaming from ear to ear. Thankyou for the *hathiyaar* (weapon), they told us, and handed back the *jareeb*. Can we, we asked them, see what you wrote? They took out their smudged piece of paper and showed it to us. It was covered with a series of numbers in meaningless disorder. But, they grinned, they had taken care not to show it to the *patwari*!

This theme of knowledge as weapon has come back to us many times in the last three decades. In the mid-80s, a small party from the Palamau district of Bihar knocked on our door. Could we come to their village and see what the proposed dam on the Auranga river was going to do their area? We said yes, but provided they were able to wrangle a copy of the DPR (Detailed Project Report) of the dam. Oh, no problem, they remarked, the irrigation department *chaprasi* (peon)

* *Hazard Centre (Khatara Kendra), New Delhi*

was from their village. So, three weeks later, we were rambling across the farmlands of Palamau inspecting the river and its catchment and comparing it to what was written in the DPR. We were faced with a battery of questions. Look at that river, excalimed the villagers, do you think it can carry as much water as to irrigate all the lands the department is claiming it will? And can you see the silt in it; how long will it take for the dam to fill up? The department says that this village will come under submergence, and that one will not, when we can clearly see that this village is higher than that one! How can we challenge their views?

We took four days to instruct a batch of 20 young boys from the surrounding villages how to measure the flow in the river, the silt load that it carried, and the slope of the land. With that, they said, they would be able to take on the project's claims of projected irrigation, the life of the dam, and the extent of submergence. On the last evening, as we were packing to leave the next morning, they eyed us suspiciously. Where, they asked, pointing to the "dumpy" (a kind of telescopic instrument that is used to measure levels), are you taking that? Well, we said, this is our instrument and we are taking it back; if you want one you will have to get it for yourselves. How much does it cost, they queried, and where is it available? The nearest place, we explained, would be Ranchi and it would cost about Rs 3,000. And then we retired for the night. Only to be woken up by an exuberant hammering on the door very early the next morning. Here, they said, here is Rs 3,000 collected from donations by all the villagers, and you can go and buy the dumpy yourself; otherwise how will we fight a *yuddh* (war) without an *astra* (weapon)?

That the *yuddh* was joined became clear to us when, four months later, a parcel arrived with the postman. It contained a sheaf of papers containing the records of three months of daily measurement. We went to work on the data and came up with some very interesting findings indeed. The river, for instance, carried only half as much water in the monsoon months as the DPR claimed it did. This water also bore a silt load one-and-a-half times that of the figure reported in the project proposal. 25 villages were actually coming into the submergence zone, demarcated by following the full reservoir contour, as compared to the 19 acknowledged by the project authorities. When all these were factored into the calculations the benefits actually came to less than the costs! This was going to be one very unviable dam indeed, we informed the people of Auranga. They, in turn, took the report and propagated it all over the area through posters and leaflets, while the English version was duly sent off to the governments, the media, the courts, and even the World Bank. Today, fifteen years later, the Auranga river remains unbound.

In the mid-90s, we had another set of visitors, but this time from the high ranges of Kullu district in Himachal Pradesh. Their villages and hamlets were being threatened by the declaration of the Great Himalayan National Park. What exactly was this Park, they asked, and how could they protect their families? So, two months later, armed with the relevant documents and reports, we pitched camp in their village. A young bunch of grazers and farmers listened attentively as we explained how the government had commissioned a study in the 80s and how this study, conducted

by a pair of specialists from the Pheasant Society in the UK and Canada, had come to the conclusion that only by declaring the Park as a protected area could the rare Western Himalayan Tragopan (a ground-dwelling bird) be saved. And then, as we presented the details of the study, the listeners grew restive. No, they protested, it is not possible for the Tragopan to be disturbed by our herds because it nests in late winter and our grazers go up only in late spring. Even that figure of 25,000 animals is wrong, they objected, our numbers rarely cross 12,000. And it is not us who destroy the herbs, but the Nepali labourers from the Terai, who are unfamiliar with alpine ecology and are hired by the traders in the plains.

We suggested to them then that they should do their own study and compare their findings with what had been reported by the foreign experts. Very well, they responded immediately, tell us how to do the study. So, for the next two days, we demonstrated to them how to draw transects and conduct animal counts, how to document the diversity of grasses and shrubs, and how to systematically record their observations. As soon as the snows melted, six of them headed towards the alpine meadows, following the same route that the scientists had taken ten years earlier. Two porters who had been taken along to ferry the supplies to base camp (at heights of over 3,000 metres, one does not run into the occasional tea shop or restaurant!), became so familiar with the routines of measurement that they eventually became part of the study team. Six weeks later they returned, armed with a range of documented observations. A detailed examination of their records showed that they had successfully challenged every one of the findings of the government-sponsored study. In addition, their measurements indicated what was the carrying capacity of the meadows, how ruminants were in fact controlling weed infestation, and how the herbs could be harvested within the boundaries of conservation.

This much, then, is certain: people fight their struggles for survival based on what knowledge they can create. Each one of the reports and studies cited above (and numerous others that have not been documented in both rural and urban areas) indicates that ordinary working people have the capacity to learn, to collect information, to look at it analytically, and eventually use it for bettering their own lives. This is, or should be, the central objective of "education". And yet, these are simple (and yet very complex) tasks that are not undertaken by our educational institutions. Didactic instruction, memorising by rote, and vomiting out useless information for futile examinations constitute the fundamentals of what passes for education in our schools and colleges. Perhaps there is a purpose to it all. Perhaps another Macaulay is required to explain it to us in yet another Minute. And perhaps, in some not too distant future, a group of young labourers will learn to document their own lives to tear this farce to pieces.

February 2005

Dunu Roy

Annexure IX

WORK EXPERIENCE IN KAMALA NIMBKAR BALBHAVAN*

Work experience, as in our curriculum today, ceases to interest older – eighth standard-students. The work experience class then becomes a painful experience for both teachers and students. The students never complete their work. They make a lot of noise, goof off and in general make a nuisance of themselves. Actually they are ready for real work, both physically and mentally. So we thought, "We should give them a glimpse of real work."

Six years back we decided to try this out. We started looking around for possible work places where the work would interest the child but would not require special skills like carpentry. It would involve physical work but would not be too strenuous or dangerous. It would not bring them in contact with potentially hazardous material like medical waste. Keeping all this in mind, we contacted a cooperative poultry farm, a goat farm and a plant nursery. The managers or owners of these places proved to be very cooperative and agreed to have our students work for them.

The class was then divided into three groups of roughly ten students each. Each group had a group leader who had the responsibility to coordinate the activities, to talk to the managers and in general to keep the group together. The goat farm is about six kilometers from the town and the poultry farm about ten. The plant nursery is close by.

For the last six years our eighth standard students have been going to these work places for their work experience. They spend a whole week, from Monday to Friday, working from 10 a.m. to 5 p.m. Every day the group of 10-12 students reports to work around 10 o'clock. Then they spend the whole day working with the workers. At the goat farm they sweep the goat pens, chop fodder and feed the goats, administer medicines to the goats and kids and help in delivering a goat. In the poultry they collect eggs, feed the chickens, clean the chook-pens and help vaccinate or cut the beaks of the chickens. In the nursery they learn to change soil from pots, prune the plants and prepare seedbeds. The afternoons are generally spent in academic matters like collecting information by direct questioning or reading pamphlets or viewing video films available at the farms.

We have found that the students take pains over collecting information about the breeds, diseases, vaccination and care of the animals or birds. But all is not work. They roam around the farms or play cricket in the open fields, eat sugarcane and generally enjoy themselves. When they finish their week they get a small farewell tea party and sometimes even receive gifts from the farms. The students also present the staff with some big pictures or collages they themselves have prepared. Some groups also entertain with songs, dances or small skits, which the labourers love.

** Kamala Nimbkar Balbhavan is a private Marathi-medium school run by the Pragat Shikshan Sanstha in Phaltan, a Taluka town in Western Maharashtra.*

The groups come back to school on Saturday and have long discussions. Then they write up the information collected, along with pictures or photographs in the form of a report. Some students write stories or articles for the school magazines. The English teacher also has students talk and write about their experience in English.

The aims of starting this work experience were several.

1. To give the students a glimpse of the real world of work.
2. To give them an opportunity to learn from society.
3. To learn to solve problems and deal with unexpected situations. For example, a group at the poultry farm missed the last bus. The six-seaters were crowded and would not stop. So the students started walking. Fortunately they met an empty tractor-trailer and got dropped at the Phaltan bus stand.
4. To talk to and get to know people from different walks of life.
5. To work manually and take pride in it. (One group at the poultry bagged a party for collecting the highest number of eggs without breaking)
6. To have a change of scene from the routine at school and get new ideas.

We certainly do not claim that this short exposure to a goat farm enables the students to know a lot about goat keeping but it definitely achieves all the above aims. The one week experience gives the students a lot to think and write about. Many students visit their work places again on weekends or during the holiday.

> The success of this work experience led us to another experiment— the printing unit. Four years ago Cummins Diesel India Ltd., along with the Speedograph Company, gave us a small offset printing press.. At first we were mainly using it to do our own printing. Students always showed great interest in printing and the machine, but somehow it did not fit into the timetable and the scheme of things to teach them printing. However such last year we started a class once a week for anyone who was interested. The students are taught the basics of printing and binding and generally help keep the machine clean and the room tidy.

In the second term the students do a project in which they get are supposed to get an outside job. They make an estimate, do the DTP work on the computer, go to the paper merchant and select paper, then make a master and do the printing. Finally they do the binding and deliver the job. They have to do this job in the group with the help of their teacher. This is real work.

We find the students very enthusiastic and competent.

Dr. Manjiri Nimbkar

February 2005 *Principal*

Annexure X

Extracts of 'Rookhi-Sookhi' translated from Hindi
THE BOOK OF FAMINE
Local history compiled by school children Adharshila School
Sendhwa, Distt. Badwani, Madhya Pradesh

This information has been recorded through interviews with the elders of Saakad, Chaatli and Kunjari villages.

Which year did the famine occur?

Rawalia Baba of Saakad village says that the famine occurred 20 years ago while Dongarsingh Baba believes it occurred 56 years ago. Dhavli Ma and Shriram say 80 years have passed since the incident occurred. . . . . .The following is mostly concerned with the Chhapania famine of 1899 that proved calamitous and people all over the land died of it. Chaatli was not affected by and large - as per Harchand Baba, it kept on drizzling and *bajra* was ripe in the new lands (*nevaad*) in the forest.

Why did the famine occur?

Rama Bhai of Chaatli informs that once there was an *Undar Kaal* (famine caused by rats). That year the rats multiplied manifold, destroyed the crops and ate the grain too. This is why it is called *Undar Kaal*. Some people say that during this famine people ate the rat dung after washing and grinding it.

Likewise, one year, locusts attacked and destroyed crops causing famine. It is called *Teed Kaal* (famine caused by locusts) when people took *tagaari* (a large iron pan) to the fields and beat it to keep the locusts away. . . . . .

How did people survive during famine?

Nothing was cooked during the famine and people consumed whatever they found – leaves and bark of trees, bones of cows and oxen – whatever they could crush and eat. . . . . .During the *Magal Akaal*, even a rupee was hard to find. The people, therefore, drank *raabadi* made from *jowar* that was prepared by boiling it in water. The *raabadi* used to be so dilute (due to lack of grains) that one could actually count the beams of the roof through their reflection in the plate of *raabadi*. . . . . .Old people say, a fistful of grain and a pot full of water was all what they survived on during famine. . . . . .People ate the crushed bark of trees such as *gular*, *pipar*, *palaash*, *saalaai*, *semal*, *sagwan*, *dhaavde*, *moyna*, *mahua* and mango. After a few days, even the bark was not available. According to Harchand Baba of the Chaatli village, even the roots of *sagwan* (teak) were eaten by people. . . . . .Dead animals and roasted worms were the food which the people initially declined to consume but had to eat eventually. They ate all this and lived...

Where did the water come from?

. . . . . .Jadia Bhai of Aachhli told about a *jhiri* (underground source of water) in the tiny stream of the village which had water and elsewhere all water had dried up. That is what people drank. Jadia has learnt from his elders that people would drink from *jhiri* and die. More people would come, remove the dead, drink water and they too would die. Rawalia Baba of Saakad and Harchand Baba of Chaatli confirmed this story.

In some villages, people drank the urine of goats and monkeys in order to quench their thirst, apart from drinking the muddy water collected in the ditches of rivulets.

What happened to the animals and birds during famine?

. . . . . .The birds could not find grains, worms and water and died. The birds would sit and peck on the backs of oxen and kill them. . . . . .

The crops that use less water to become ripe:

Name of the Crop	How many times it needs to be irrigated	How much time it takes to ripe	Seeds are available or not
Jal Genhu	2 Times	3 Months	No
Safed Makki	2 Times	2 Months	Yes
Raatli Makki	3 Times	-	Yes
Kukadaai Makki	2 Times	2.5 Months	Yes
Peeli Makki	1 Times	1 Month, 20 days	Yes
Chhoti Makki	3 Times	2.5 Months	No
Moong	2 Times	2 Months	Yes
Chamki Moong	2 Times	2 Months	No
Saraadia Moong	3 Times	2.5 Months	No
Nanli Batti	3 Times	3 Months	No
Batti	2 Times	3.5 Months	No
Badaa Bajra	2 Times	2 Months	-
Kutaar Bajra	2 Times	3.5 Months	No
Naanli Daadar	1 Times	4 Months	No
Satpanaay Jowar	3 Times	3 Months	Yes
Nanla Chawla	3 Times 2 Times	3 Months, 2.5 Months	No
Bhugadaai Uradi	2 Times	2.5 Months	No
Chachria Chana	1 Times	4 Months	Yes
Khuki Bhaadi	2 Times	2.5 Months	No
Duchaki Saav	3 Times	2.5 Months	No
Varai	2 Times	2.5 Months	No

How to survive the famine?

. . . . . .Some crops need little water to ripe. Such crops should be sown in plenty. By doing so, one or the other crop will certainly manage to ripe. All kinds of old seeds should be preserved. One method of surviving the famine is to grow more than one crop in the fields. Soybean should be avoided. It is used to feed pigs in foreign countries. You want to grow crops for pigs or for your children - this should be given thought.

The rainwater should be preserved. A blockage (*pala*) made of large boulders should be constructed on the mountains to hold water. . . . . .and the trees must be protected in the hills. . . . . Water would be checked due the blockages and trees and would seep into the ground. This in turn would increase water in springs and wells. Grains and money should be kept in reserve.

Who benefited from the famine?

The *banias* (traders) benefited during the famine. They hoarded the grains and raised the prices. They did not provide grains even when the *adivasis* (tribals) were dying. Those people who traded in animal skin must have also benefited by the famine.

This led to clashes between the *adivasis* and *banias* at several places. During one particular famine, thousands of *Bhils* gathered near Dahod in Gujarat and carried out a rally. The *banias* and *bohras* too were made to walk in the rally with pots filled with water placed over their heads. These pots were broken thereafter. This made the *adivasis* feel as if the water which the *banias* and *bohras* had stocked in order to make money, is now released. The hoarded grain was taken out and distributed among themselves.

There was a famine in Jhabua District too around the year 1900. The Queen of Alirajpur did not make any provision for grains for the *adivasis*. Therefore, the Chief of the Sorva region - Chhitu Kirad - organised the *adivasis*, took out the grain stocked in the homes of the *banias* and *bohras* of the nearby *kasbas* and distributed it among the people.

Government aid

. . . . . .During a particular famine, some foreign wheat was distributed among the people by the government through ration shops. At this time, *jowar* too was distributed through these very ration shops. The ration shops were also known as 'control shops'. The seeds of the same *jowar* were sown by the people and this is today known as *Kauntai Jowar*. . . . . .

Plundering (Looting) during famine

. . . . . .Sarapia Bhai told that the plunderers would eat even live animals by chopping them into bits. Jamadar Bhai of Doodhkheda told that people used to come to steal grain even in the day time. Those who had grain would dig up the ground and store the grain underneath. This would be consumed bit by bit. Harchand Baba of Chaatli agreed that *bajra* was stored under the ground and eaten uncooked due to the fear of being plundered. People made *chapattis* secretly to avoid the hungry ones who may come at the very sight of smoke from the stove. . . . . .

Folk tales of the famine

A folk tale 'goes' like this: A family once found a single grain of *makka* (corn). The family members boiled it in water and drank the water. They would boil the same grain again and drink its water the next day too. One day a child found that grain and ate it. As a result the whole family died. . . . . As per another tale, a woman was picking lice from her child's hair. While playing, the child's hand inadvertently went into the mother's mouth. The mother was so hungry that she bit into the child's hand and ate it up. Rawalia Baba has heard that even a child would be eaten up.

Rama Baba of Chaatli is 55 years old. He has heard stories of an old famine from his elders. He says when children would cry hard they would be carried to some mountain and left there under a tree. . . . .

The last story

Once the Rain God decided that is must not rain on earth for nine years. It happened so. There was a farmer who would go to his field year after year and till the land. Each year, he would carry his plow to the field and till the land, even when it did not rain at all.

One day when he was tilling the land, the *Pani Dev* (Rain God) approached him and inquired why is he tilling the land. "Why are you wasting your energy as it is not going to rain for many years? Look, all your fellow villagers have gone away to do some other jobs.", the *Pani Dev* observed. The farmer answered: "If I stop tilling I might forget how to even plow. My farming implements too would become useless due to disuse. My oxen would also not remain worthy of farm work. Some day it will certainly rain. How would I then do my job? Therefore, whether it rains or not, I would go on tilling."

Listening to the farmer's reasoning, the *Pani Dev* was lost in his thoughts. He said to himself: "If this farmer can forget how to do farming, I too might forget how to rain. It is likely that I might forget how to make lightening and thundering. What would happen then?" Having reasoned like this, the *Pani Dev* started to rain at once.

So, whether there is flood or famine, the farmers go on farming. They would continue to produce grains even at the risk of their lives. This is why the world is able to have food!

Annexure XI

Vocational Education – Some Experiences
By Dr S.S. Rajagopalan

As a student and later as Headmaster of Sarva Jana Higher Secondary School, Coimbatore (Tamil Nadu), I was privileged to have an inside view of the different experiments and practices adopted in the school. I also served as a member of the Joint National Council on Vocational Education. I had presented quite a few papers at the Seminars/consultations on Vocational conducted by NCERT and NIEPA.

The present paper is based on the personal experiences of mine.

1. Right from its founding in 1924, the School laid stress on hands-on experience as the Founders believed that technical skill was very important for the individual and the country. In the beginning students went to the Industrial Institute under the same management for training.
2. When the SSLC Board revised the curriculum in 1929, there was scope for teaching vocational subjects and present candidates for the Public Examination. The School offered two job-oriented courses i) Book-keeping and Accountancy ii) Agriculture. Both courses were popular because of the intensive practical training imparted.
3. In addition, Carpentry was introduced in the middle and high school classes as a craft. In addition to making models as per the syllabus, students were encouraged to design and make any article that may be of use to them at home. Only nominal cost of wood was collected from students. This developed a sense of pride among students. The Workshop was open even on holidays and the sense of ownership was so much that not a single item got missing from the workshop.
4. In 1948, bifurcated (diversified) course were introduced. The school offered Secretarial Practice and Engineering. The training was so intensive that the courses were not only popular but the students turned out to be entrepreneurs on leaving the school. It is this batch of students who became leaders in Small-scale industries.
5. In 1978, Tamil Nadu introduced Higher Secondary Courses. The School introduced six vocational courses and actually in the first year out of 300 enrolments, 180 opted for vocational courses.
6. Some of the strategies adopted to make the vocationalisation successful are:
   (a) A Vocational Advisory Committee (VAC) was formed with representatives from the Coimbatore Small Scale Industries Association. South India Mills Association. South India Textile Research Association. National Textile Corporation, South India Engineering Manufacturers Assn, old students who are entrepreneurs , Engineering Colleges etc. The VAC advised the school regarding,
      (i) Selection of courses: The courses with job potentiality for the next two years were identified and suggested for introduction. Similarly courses that had become infructuous

were recommended for discontinuance. Some such new courses were – Maintenance and Servicing of Textile Machinery, Foundry Technology, Maintenance and Servicing of Electrical Machines, including Generators c. Business Machines and Computer Programming.

(ii) Training Facilities: Industrial and other establishments that could provide in-plant training and hands-on experience were suggested.

(iii) Suggestions for constitution of sub-committees for formulation of course curriculum were also made. The School had the privilege of forming its own syllabuses for over 8 courses and had them approved by the Department.

(iv) It helped in getting jobs for school leavers. Many a time students got a job even when they finished the first year.

(b) Go beyond the curriculum was the policy adopted. Job proficiency and not just certification had been the hallmark. Holidays and vacations were utilised to send students for prolonged in-plant training. The courses were also suitably modified to meet the changing needs.

(c) Placement cell: The Headmaster himself acted as the Placement Officer. He kept himself in close touch with employing agencies. He also monitored how the students perform in their new jobs. A Managing Director of one of the leading Textile Group always filled up the posts in his office with candidates from the school.

It is now regrettable that the lead role of the school in vocational education had gone on a downhill for reasons more than one. The succeeding heads did not evince the same interest. The Department laid an embargo on new posts as well as filling up posts falling vacant. Although the management would have willingly come forward to support the programme, efforts were not taken in this regard.

The Tamil Nadu experience in vocationalisation had some lessons to learn:

1. There must be total commitment to vocationalisation on the part of the educational administrators, school heads, university and govt.
2. Courses must be carefully selected on the basis of job potential. Most courses in existence do not lead to any job.
3. Vocational Advisory Committees should function at school and higher levels.
4. Curriculum should be strong and functional. Enough flexibility should be provided to take note of the changes taking place as well to help go for further studies in that area.
5. The TTTI's should provide training in pedagogy for vocational teachers.
6. Textbooks and training manuals should be made available.
7. Practicals should include in-plant training.
8. Periodical monitoring is necessary.
9. Accreditation of courses with certificate of equivalence with other courses should be done.
10. A Placement Cell should function in every school in addition to a guidance and counseling centre.

Annexure XII

MAKKAL PALLI IYAKKAM

A People's School Movement in Tamil Nadu

Makkal Palli Iyakkam (MPI) is a school and community level education intervention programme currently going on in about 380 villages spread across 30 blocks for the past three years. This is a joint programme of Tamil Nadu Science Forum and Aid India's Development (AID).

The Govt. of Tamil Nadu has facilitated the programme, giving blanket permission to the two organisations to use school premises after school hours.

MPI has four main objectives:

1. To prevent dropout of children in primary school. Linked to this are the other objectives of enrollment of all children and support centers to help weaker children.
2. To improve the quality of education in primary and middle schools.
3. To establish community support for the school.
4. To establish linkage between people and the school – to help people feel that the school belongs to them and not only to the govt.
5. To increase utilisation of school infrastructure even after school hours for community learning needs.

To attain the objectives the activities listed below are carried out:

- To prevent dropouts – Identifying potential dropouts, meeting their parents, paying special attention to them, organising support centers to help them with basic literacy and numeracy skills, enrolment drives, cultural programmes and intervention to get the community to focus on these children.
- To improve quality of Education – In-school activities, science experiments, joy of learning activities, songs and games, library reading classes, slide shows, metric melas, educational festivals, cultural programmes and so on.
- To build community support – Forming Villaage Education Committees, Village Gatherings (*Oor Koodum Nigazchi*) to discuss educational situation, Parent Teacher Meetings, presentations in Gram Sabhas, Community Education Register to plan for education needs aand involving the community through education programmes.
- To increase utilisation of school infrastructure – Turning the school into a learning center for the entire village through a host of evening activities; using the school from 5 pm to 9 pm and on weekends for the community's learning needs. A sampling of activities for adults being carried out in the schools are library and reading sessions, savings group meetings, health and know-your-body classes, particularly for adolescent girls, games for women, slide and video shows, science experiments, *Manthirama Thanthirama* (Magic or Logic) programmes, cultural programmes, medical camps and so on.

Dr. Vasanthi V. Devi

Member, National Focus Group on 'Work and Education', April 2005